

Panasonic[®]

S60 series

***e*HELP**

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Cable / Satellite / Fiber Optic box

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Meaning of signs :



Press the Remote control button

INFO Letters in box : Remote control button

MENU Letters in Cyan : Menus on screen display

Watching TV

Cable / Satellite / Fiber Optic box

Initial setting

1. Connecting

Select the wiring method connecting your box to the TV, **AV IN** or **Antenna/Cable in**.

Note: HDMI will provide the best HD picture

2. Change INPUT



INPUT

Press the INPUT button to select the proper connection. Wait 2 seconds.

3. Power on your Cable , Satellite or Fiber box

Use the box's remote control to change channels.

* If the box is connected to the TV using a COAX cable (Antenna/Cable in), then set the TV channel to CH3 or CH4. Note that the picture will not be in HD.

- * CC/SAP is not available when watching TV with a Cable or Satellite box connected via HDMI.
- * If you have a High Definition box, ensure that it is outputting 720p or 1080i signal.
Tip: press the TV's **INFO** button to verify.
- * Check your box's "aspect" or "format" settings. It should be set to 16:9, Widescreen or **FULL**.
- * If the audio volume is too low, check the box's audio settings.
- * Contact your Cable or Satellite provider for instructions on any box settings.

Watching TV

Antenna / Cable service without a box

Initial setting

1. Connect coax

Connect a COAX wire from either an antenna or Basic Cable service to the TV's "ANTENNA/CABLE IN" screw terminal.



1 TV (ANTENNA/CABLE IN)

2 Antenna

2. Scan the channel

 **MENU** → **Menu** > **Setup** > **ANTENNA/Cable setup** >
ANTENNA/Cable signal, Auto program

1. Select either **Cable** or **Antenna** programming source in **ANTENNA/Cable signal**.
2. Select **Auto program** and then the appropriate scan mode:
(**All channels** / **Analog only** / **Digital only**).
3. Start scanning.

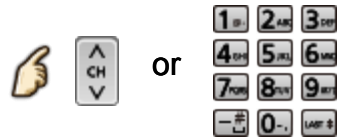
★ If no channels are found by the end of the scan, then check the following:
Antenna's position - or availability of Cable service.
Cable, Satellite or Fiber services with a box are typically connected to the TV's A/V inputs, preferably HDMI, for best HD picture. In such a case, the channel scanning is not needed.

Watching TV

Antenna / Cable service without a box

Select channels

- **Select desired channel**



- CH buttons are also available on the TV.

- **Select desired digital channel**

To directly enter a digital channel number use 

- When tuning to a digital channel, press the button to enter the minor number in a compound channel number.

(e.g. CH15-1 →    )

Watching TV

Antenna / Cable service without a box

Favorite channels

Channel numbers registered in Favorite are displayed on the favorite tune screen. Select the desired broadcast station with the cursor or use the number buttons.

- Favorite channels cannot be set when using Cable or Satellite box

- **Set the Favorite channel**

 **OPTION** → **Options menu** > **Set favorite**

Select the list number using \triangle / ∇ and  or



directly to


save the displayed channel.

- **Delete a Favorite channel**

 **OPTION** → **Options menu** > **Set favorite**

Select the list number using \triangle / ∇ and  (press and hold) to delete.

* To change the page in **Set favorite**

 **FAVORITE** or \triangleleft / \triangleright repeatedly

- **Display a Favorite channel**

 **FAVORITE** → **Favorite channels**


Select the list number using \triangle / ∇ and  or



directly to

save the displayed channel.

* To change the page in **Favorite channels**

 **FAVORITE** or \triangleleft / \triangleright repeatedly

Watching TV

Antenna / Cable service without a box

Closed caption

Viewing with Closed caption



Switches the Closed caption mode.

(**Off / On / On mute**)

- ★ CC is not available when watching TV with a Cable or Satellite box connected via HDMI.
- ★ Contact your Cable or Satellite operator for instructions on enabling CC with their box.
- ★ The TV's CC button does not operate the Satellite or Cable box's CC function.
- ★ For viewing the CC of digital broadcasting, set the aspect to FULL (If viewing with H-FILL, JUST, ZOOM or 4:3; characters might be cut off).
- ★ If the CC is set to On on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.
- ★ If a digital program is being output in analog format, the CC data will also be output in analog format.
- ★ If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

Watching TV

Antenna / Cable service without a box

SAP

Listen with SAP (Secondary Audio Programming)

- SAP is not available when watching TV with a Cable or Satellite box connected via HDMI.
- Contact your Cable or Satellite operator for instructions on enabling SAP with their box.
- The TV's **SAP** button does not operate the Satellite or Cable box's **SAP** function.

Select the Audio mode for watching TV.



Digital mode: Select available audio service when receiving a digital channel.

Audio track is automatically selected as **Preferred audio type** and **Preferred SAP language** settings.

Menu > Sound > Preferred audio type

Menu > Setup > Language > Preferred SAP language

- * If you change the audio settings with the **SAP** button, **Preferred SAP language** and **Preferred audio type** settings will not change.

Audio track 1 of 7	→	Track number / Number of tracks
English (Main audio)	→	Current audio track information
English audio	→	Audio service information

(example)

Analog mode: Select the desired Audio mode. (**Stereo / SAP / Mono**)

Watching TV

Antenna / Cable service without a box

Other

1. Information banner

Displays TV status information. Also, when watching programs via the Antenna/Cable input, INFO will include the channel banner.



Channel / Station identifier / Program title / Closed caption / SAP /
Rating level / Signal resolution / Picture mode / Aspect ratio /
Sleep timer remaining time / Clock

2. Options menu

This menu consists of shortcuts to convenient functions.



Channel surf mode: Specify favorites or type of channels to view when pressing the channel up/down button.

Set favorite: Set favorite channel

Edit CH caption: Edit the channel identifier

Signal meter: Check the antenna's signal strength

* Options menu is only available when the TV is using the Antenna/Cable input, not when using Cable or Satellite box.

Watching TV

Blu-ray, DVD, Game Console, etc.

Connecting and viewing

1. Connect device

Verify that the device is connected to the TV properly and connect to desired terminal. Note which terminal the device is connected to (HDMI 1, HDMI 2,... Component or Video)

Component and Composite (Video) in terminals are shared.

Please be careful not to confuse the connection when you use Component or Video.

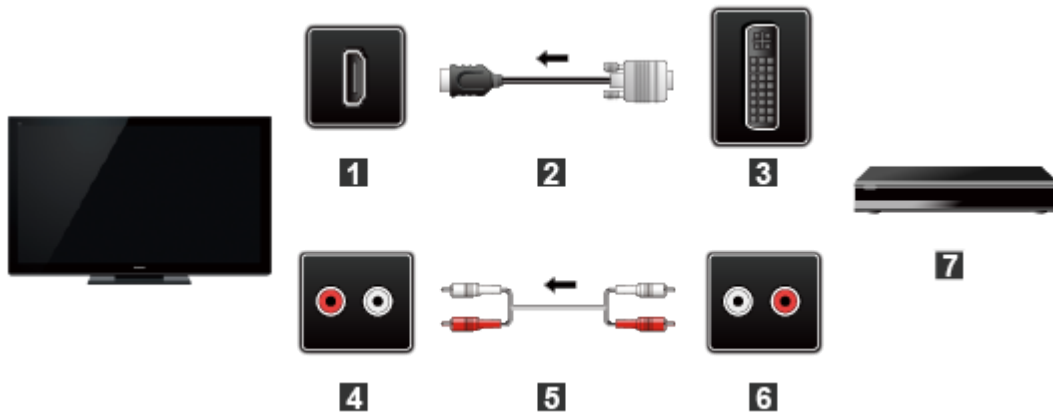
■ Example of AV connections

A. Connecting to the HDMI input (best)



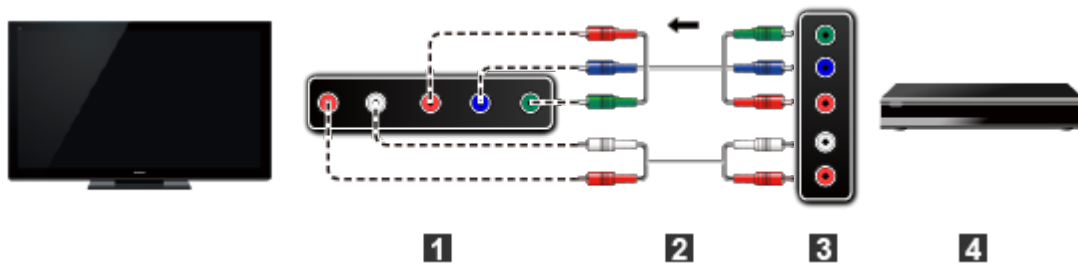
- 1** HDMI IN
- 2** HDMI cable
- 3** HDMI OUT
- 4** AV Equipment (e.g. Blu-ray Disc player)

For devices with DVI output



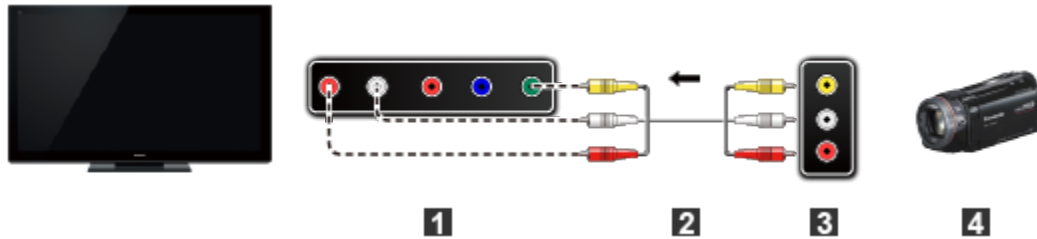
- 1** HDMI IN
- 2** HDMI-DVI Conversion cable
- 3** DVI OUT
- 4** AUDIO IN
- 5** Audio cable
- 6** AUDIO OUT
- 7** AV Equipment (e.g. Blu-ray Disc player)

B. Connecting to the COMPONENT input



- 1** COMPONENT IN
- 2** Component cable
- 3** COMPONENT OUT
- 4** AV Equipment (e.g. Blu-ray Disc player)

C. Connecting to the VIDEO input (Standard definition only)



- 1 COMPOSITE IN
- 2 VIDEO cable
- 3 COMPOSITE OUT
- 4 AV Equipment (e.g. Camcorder)

2. Select Input

1. Display **Input select** menu (With the connected equipment turned ON)



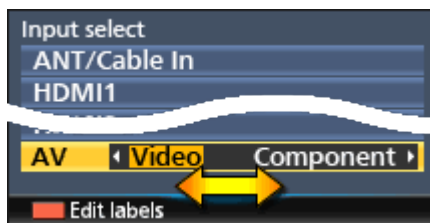
INPUT

2. Select the input used in step 1

Select correct input source, using \triangle / ∇ and press **OK**

You need to select **Video** or **Component**.

- Press **INPUT** and select **AV: Video** <-> **Component**.
- Press \triangle / ∇ to choose Video or Component.



- You can edit and customize the **TV's Inputs** for easy identification by pressing the button. If you label an input as "Not used", then it will not appear in the Input select menu.

3. Operate using your device's remote control.

Watching TV

Blu-ray, DVD, Game Console, etc.

HDMI connection notice

HDMI (high-definition multimedia interface) allows you to enjoy high-definition digital images and high-quality sound by connecting the TV unit and HD devices.

HDMI-compatible equipment (*1) with an HDMI or DVI output terminal, such as a Cable or Satellite box or a DVD player, can be connected to the HDMI connector using an HDMI compliant (fully wired) cable.

- HDMI is the world's first complete digital consumer AV interface complying with a non-compression standard.
- If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adapter cable (*2).
- When the DVI to HDMI adapter cable is used, connect the audio cable to the audio input terminal.
- Audio settings can be made on the **HDMI in** menu screen. Applicable audio signal sampling frequencies (L.PCM): 48 kHz, 44.1 kHz, 32 kHz

(*1): The HDMI logo is displayed on an HDMI-compliant device.

(*2): Inquire at your local digital equipment retailer shop.

Watching TV

Blu-ray, DVD, Game Console, etc.

HDMI connection caution

Caution

- If the connected device has an aspect adjustment function, set the aspect ratio to "16:9".
- The HDMI connectors are "type A".
- The HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- Devices with no digital output terminal may be connected to the input terminal of either "COMPONENT IN", or "VIDEO IN" to receive analog signals.
- The HDMI input terminal can be used only with the following video signals: 480i, 480p, 720p, 1080i and 1080p. Ensure that the device being connected to the TV can produce one of these video signals.

Watching TV

Blu-ray, DVD, Game Console, etc.

Input signal

- Signals other than those listed below may not be displayed properly.
- The signals are reformatted for optimal viewing on your display.

■ **Component and HDMI** (* HDMI only)

Input signal	Vertical frequency (Hz)
525 (480)/60i	59.94/60.00
525 (480)/60p	59.94/60.00
750 (720)/60p	59.94/60.00
1,125 (1,080)/60i	59.94/60.00
1,125 (1,080)/60p	59.94/60.00
1,125 (1,080)/24p *	23.98/24.00

Watching TV

Useful features

Eco navigation

This setting allows you to set the TV to the most suitable energy-saving mode automatically.

1. Select **Eco navigation**

 **MENU** → **Menu** > **Setup** > **Eco navigation**

2. Press **Set to ECO**

Optimizes the TV's various modes to save energy.

Note: The TV's brightness will adjust and adapt as the room lighting changes.

Watching TV

For best picture

Picture mode

1. Change picture mode to suit your settings and taste

1. Select **Picture mode**

 **MENU** → **Menu > Picture > Picture mode**

Select desired menu using \triangle / ∇ from menu bar and press 

2. Adjust using \triangle / ∇

Note: HDMI will provide the best HD picture

2. Picture mode type

Vivid

Provides enhanced picture contrast and sharpness for viewing in a well-lit room.

Standard

Recommended for normal viewing conditions with subdued room lighting.

Home theater

For watching movies in a darkened room. It provides a soft, film-like picture.

Cinema

Reproduces the original image quality precisely without any revision.
Allows you to set the professional picture settings in **Pro settings** and **Copy adjustments**.

Custom

Customizes each item according to your taste.
Allows you to set the professional picture settings in **Pro settings** and **Copy adjustments**.

Watching TV

For best picture

Auto brightness (ECO)

Contrast Automatic Tracking System (C.A.T.S.) adjusts the screen brightness and contrast according to the room's ambient light conditions. This ECO feature automatically dims the brightness of the screen when the room lighting is lowered.

C.A.T.S. features a built-in delay when the lighting conditions change. The adjustment happens gradually.

If you prefer a consistent brightness, disable C.A.T.S. by:

- **Menu > Picture >** scroll down to **C.A.T.S.** and turn it off.

Or

- **Menu > Picture > Picture mode** then select viewing mode such as **Custom**

.

* **Standard** picture mode automatically sets C.A.T.S. to **On**.

Watching TV

For best picture

Aspect

1. Use **FORMAT** button to change the aspect ratio

Use when the picture has bars (sides or top/bottom) and to zoom.



FORMAT (to cycle through the aspect modes)

480i, 480p: Full/Just/4:3/Zoom

1080p, 1080i, 720p: Full/H-Fill/Just/Sidecut Just/4:3/Zoom/
Sidecut Zoom

- ★ Use when the picture does not fill the whole screen or portions of the picture are trimmed.
- ★ Some content, such as film-based movies, are available in extra-wide format. Top and bottom bars are unavoidable.
- ★ Connected devices, such as Cable/Satellite box, DVD/Blu-ray players and game consoles have their own aspect (format) settings. Adjust the device's aspect settings.

■ **Screen mode**

FULL



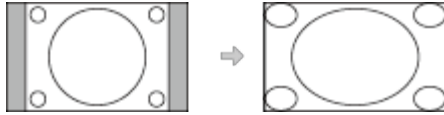
Enlarges the 4:3 image horizontally to the screen's side edges.
(Recommended for anamorphic picture)

JUST



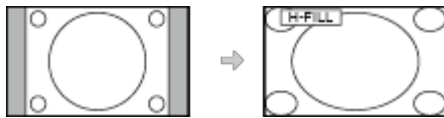
Stretches to justify the 4:3 image to the four corners of the screen.
(Recommended for normal TV broadcast)

Sidecut just



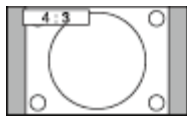
Enlarges the 4:3 image horizontally to the screen's side edges. The side edges of the image are cut off.

H-FILL



Enlarges the 4:3 image horizontally to the screen's side edges. The side edges of the image are cut off.

4:3



Standard

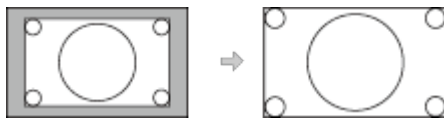
(Note that "Image retention" of the side bar may occur from displaying it for a long time.)

ZOOM



Enlarges the 4:3 image to the entire screen.
(Recommended for Letter Box)

Sidecut zoom



Enlarges the image to the entire screen. The side edges of the image are cut off.

Watching TV

For best picture

Aspect info.

■ **Zoom adjustments**

Vertical image position and size can be adjusted in "ZOOM"

- ① Select **Zoom adjustments** in the **Picture** menu.



MENU

→ **Menu > Picture > Screen settings > Zoom**

adjustments

- ② V-position: Vertical position adjustment
Adjust using \triangle / ∇ to desired position.
- ③ V-size: Vertical size adjustment
Adjust using $\triangleleft / \triangleright$ to desired size.

* Press OK to reset

Watching TV

For best picture

Copy adjustments

You can copy the selected **Cinema** or **Custom** settings and apply them to all or another input.


Settings are basic picture settings and Pro settings.

1. Select **Copy adjustments**

 **MENU** → **Menu** > **Picture** > **Copy adjustments**


Select the desired menu using \triangle / ∇ and press 

2. Select **Destination input** and set (Default: All)

Select the menu using \triangle / ∇ and press 

Then, select the destination using \triangle / ∇ and press  to set.

3. Select **Copy start to copy**

Select the menu using \triangle / ∇ and press 

4. Select **Yes** to set

Select the item using $\triangleleft / \triangleright$ and press  to set

Watching TV

For best picture

Pro settings

Adjust the picture mode in more detail.

Set **Picture mode** to **Custom/Cinema** first.

 **MENU** → **Menu** > **Picture** > **Pro settings**

Panel brightness

(Low/Mid/High)

Selects different levels of overall panel brightness.

AGC

(0-15)

Automatic Gamma Control. Increases automatically the brightness of a dark signal.

Black extension

(0-15)

Adjust the gradations in dark shades of the image.

Color gamut

(Normal/Native)

Each color space is a matrix composed of red, green & blue colors. Select your preference.

W/B detail adjustment

W/B high R, G, B (+/-50)

Adjusts the white balance for light red/green/blue areas.

W/B low R, G, B (+/-50)

Adjusts the white balance for dark red/green/blue areas.

Reset to defaults

Reset **W/B detail adjustment** adjustments to factory defaults settings.

Color detail adjustment

Red, Green, Blue hue (+/-50)

Adjusts the red/green/blue hue between light, pastel and vivid.

Red, Green, Blue saturation (+/-50)

Adjusts the difference of the red/green/blue color against its own brightness.

Red, Green, Blue luminance (+/-50)

Adjusts the luminance of red/green/blue areas.

Reset to defaults

Reset **Color detail adjustment** adjustments to factory defaults settings.

Gamma detail adjustment

Gamma

(S-curve/1.8/2.0/2.2/2.4/2.6)

Gamma correction. Adjusts the intermediate brightness of the image.

Reset to defaults

Reset **Gamma detail adjustment** to factory defaults settings.

Reset to defaults

Resets all **Pro settings** adjustments to factory default settings.

Watching TV

For best audio

Basic settings

Adjust audio quality.

 **MENU** → **Menu > Sound**

Sound mode (Standard/Music/Speech/User)

Selects your favorite sound mode.

- The selected mode affects all input signals.

Standard: Provides the suitable sound quality for all types of scenes.

Music: Improves sound quality for watching music videos, etc.

Speech: Improves sound quality for watching news, drama, etc.

- In Music and Speech modes, you can adjust **Bass** and **Treble** settings, and those settings will be stored for each mode.

User: Adjusts the sounds manually by using the equalizer to suit your favorite sound quality.

- For the User mode, **Equalizer** will appear on the Sound Menu instead of **Bass** and **Treble**. Select **Equalizer** and adjust the frequency.
-

Bass

Increases or decreases the bass response.

- Gray-out if **Sound mode** is set to **User**.
-

Treble

Increases or decreases the treble response.

- Gray-out if **Sound mode** is set to **User**.
-

Equalizer

(150Hz/250Hz/500Hz/1kHz/2kHz/4kHz/8kHz/12kHz/Reset to default)

Adjusts the frequency level to suit your favorite sound quality.

- This function is available when **Sound mode** is set to **User**.
 - Select the frequency and change the frequency level by using the cursor button.
 - To enhance the bass sound, raise the level of the lower frequency. To enhance the treble sound, raise the level of the higher frequency.
 - To reset the levels of each frequency to the default settings, select **Reset to defaults** by using the cursor button, and then press the **OK** button.
-

Balance

Emphasizes the left/right speaker volume.

- Gray-out when using Home Theater.

Watching TV

For best audio

Advanced settings

Surround

(Off/On)

Enhances audio L/R response when listening to stereo. Ideal for music and action movies.

- Gray-out when using Home Theater.
-

A.I. sound

(Off/On)

Equalizes overall volume levels across all channels and external inputs.

- Gray-out when using Home Theater.
-

Volume leveler

(+/-6)

Minimizes volume disparity after switching to external inputs.

- Gray-out when using Home Theater.
-

Distance to wall

(Over 1ft(30cm)/Up to 1ft(30cm))

Over 1ft(30cm): TV is on a stand. Keeps current setup.

Up to 1ft(30cm): TV is mounted. Reduces low frequency level to prevent resonance.

Preferred audio type

(Main Audio/Hearing Impaired/Visually Impaired)

Allows setting of the accessible audio format when it's broadcast and the language setting matches.

Digital audio out selection

(Auto/PCM)

Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT and HDMI 2 (ARC function) terminals.

Auto: Dolby Digital Plus, Dolby Digital and HE-AAC multi-channel are output as Dolby Digital Bit stream. MPEG is output as PCM.

PCM: Digital output signal is fixed to PCM.

- For video contents of Media Player / Network services.
 - ARC (Audio Return Channel): A function of digital audio output using HDMI cable.
-

**HDMI input (HDMIx in)
(Digital/Analog)**

The default setting is **Digital** for the HDMI connection. (Digital input signal)
Select audio input terminal when a DVI cable is connected along with an analog audio input signal.

Reset to defaults

Resets all Audio adjustments to factory default settings.

Using Internet services

Connect to network

Network connections

1. Contact your Broadband service provider

Obtain Broadband Internet service:

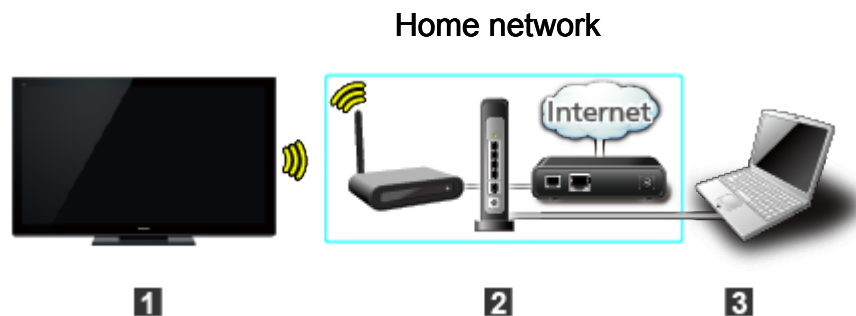
- Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively.
- Dial-up Internet service cannot be used for Online Movies.

2. Select wired or wireless connection

If a wired network connection is available near the TV, then using this LAN (Ethernet) connection is recommended.

3. Connecting to the Internet

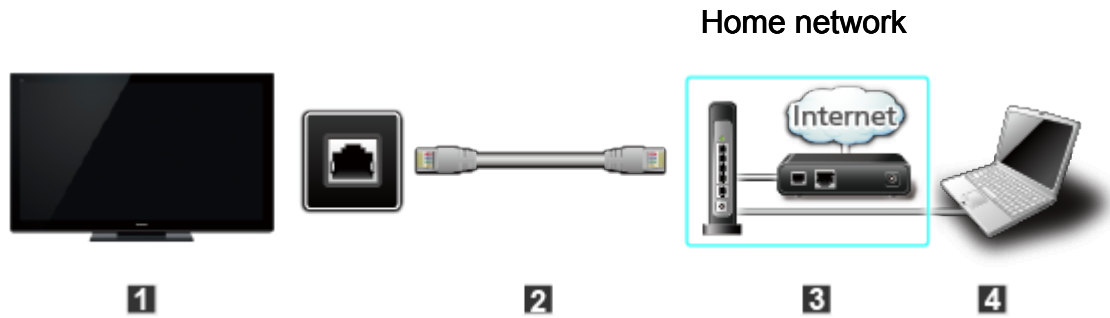
A. Wireless connection



- 1 TV (Built-in wireless LAN)
- 2 Home network (modem/wireless router)
- 3 Computer/DLNA Certified media server

★ To use and operate only DLNA features, a Broadband network environment is not needed.

B. Wired connection (Using Router)



- 1** TV (Ethernet port)
- 2** LAN (Ethernet) cable
- 3** Home network (modem/router)
- 4** Computer/DLNA Certified media server

C. Wired connection (Directly connected)

If you are not using the network for connecting anything else but the TV, you can just connect the TV directly to the Cable/DSL Ethernet modem with LAN (Ethernet) cable.



- 1** TV (Ethernet port)
- 2** LAN (Ethernet) cable
- 3** Modem

★ To use and operate only DLNA features, a Broadband network environment is not needed. You can simply connect the TV directly to the equipment with a LAN cross cable.

Using Internet services

Network settings

Setting menu

This menu is used for connecting to a Broadband environment.

1. Display the **Menu** and select **Network**

 **MENU** → **Menu** > **Network**

Select **Network** using \triangle / ∇ from menu bar and press 

2. Select the options and set


(**Network connection/Network status/VIERA remote settings/
Network link/Online Movies settings/Software update/
New software notice**)

Using Internet services

Network settings

Network connection/Network status

■ **Network connection/Network status**


- ① Select **Network connection** using \triangle / ∇ and press 
- ② Select **Quick setup** to launch Network connection setup wizard.
Follow the directions on the screen to complete the network connection.
 - Manual settings are also available.
Select **Custom** and select your connection type.
Displays setting menu according to selected connection type.
Set the desired menu and complete the network connection.
- ③ Displays **Network status**
Select **Try again** and press OK to start connection test.
Success → Completion message is displayed.
Error → Select **Status details/Help** and press OK to display solution of the connection error.
Follow the directions on the screen to complete the network settings.
 - You can also display **Network status** from **Network** menu.
(**Network > Network status**)
- ④ Exit the screen
Select **Done** and press OK to exit from this screen.

Using Internet services

Network settings

VIERA remote settings

■ **VIERA remote settings**

- ① Select **VIERA remote settings** using \triangle / ∇ and press 
- ② Displayed **VIERA remote settings**
- ③ Select the item and set

● **VIERA remote**

Enables to control the TV from the network equipment (smartphone, etc.).

- Sets to **On** to enable below settings.

- ① Select **VIERA remote** using \triangle / ∇ and press 
- ② Switches **On** or **Off** with \triangle / ∇

● **Device to upload contents**

Selects device to upload contents from the network equipment (smartphone, etc.).

- ① Select **Device to upload contents** using \triangle / ∇ and press 
- ② Select device and press 

Using Internet services

Network settings

Network link


■ Network link

Setting for DLNA server.

● DLNA server

Enables use this TV as DMS for network devices (DLNA Certified VIERA)

- Sets to **On** to enable below settings.

- ① Select **DLNA server** using \triangle / ∇ and press 
- ② Switches **On** or **Off** with \triangle / ∇

● Registration Type

Selects the limitation of access to this TV for each device on the home network.

- ① Select **Registration type** using \triangle / ∇ and press 
- ② Switches **Auto** or **Manual** with \triangle / ∇

Auto: All the available device on the home network are accessible.(maximum 16 equipment)

Manual: Sets the access limitation for each device in the Remote device List.

● Remote device list

Lists the available device on the home network.


- ① Select **Remote Device List** using \triangle / ∇ and press 
- ② Select the desired device with \triangle / ∇ and set access limitation.

Using Internet services

Network settings

Online Movies settings

■ Online Movies settings

- ① Select **Online Movies settings** using \triangle / ∇ and press 
Available services are displayed.
- ② Select the item and set to **Off**
The items are not displayed on Online Movies screen.

Using Internet services

Network settings

Software update

■ **Software update**

① Select **Software update** using \triangle / ∇ and press 

② Press OK to start the Software update screen

  → **Software update**

③ Follow directions on the screen

- Make sure to set **Clock** before the update starts.

Using Internet services

Network settings

New software notice

■ **New software notice**

Displays new software update information when TV is turned on.

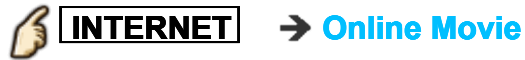
- ① Select **New software notice** using \triangle / ∇
- ② Switches **Off** or **On** with \triangle / ∇

Using Internet services

How to use


Operate

1. Access to **Online Movie**



2. Select and Enjoy Internet Service

(example)

Select the desired item using $\triangle / \nabla / \triangleleft / \triangleright$ and press 

- USB keyboard is available. Set **Keyboard type** in **Setup** menu.
(Game pad is also available.)

- ★ You need a Broadband environment to use this service.
- ★ Please confirm Network connections and Network settings before using this function.
- ★ Depending on the usage conditions, it may take a while to download all the data.
- ★ Internet services available in Online Movies screen are subject to change without notice.
- ★ Not all Online Movies screen contents are available depending on the country and area.

Home network "DLNA"

Get started

Information

You can share the contents (Photo, Video, Music etc.) stored in DLNA Certified media server with your home network system.

- Please confirm **Network connection** and Network settings before using this function.

This TV is a DLNA Certified™ product.

DLNA (Digital Living Network Alliance) is a standard that makes DLNA Certified digital electronics easier and more convenient to use on a home network. To learn more, visit www.dlna.org. It allows you to share photos, videos and music stored in the DLNA Certified media server (for example, PC with Windows 7/Windows 8 installed, etc.) connected to your home network, and enjoy the contents on the TV screen.

■ Media server

Store photos, videos or music into the DLNA Certified media server, and then you can enjoy them on the TV.

To use a PC as a media server

Prepare the PC with Windows 7/Windows 8 or ensure the server software is installed on the PC. "Windows 7/Windows 8" is the server software that has been tested for compatibility with this TV (as of November, 2012). Any other server software have not been tested with this TV, therefore compatibility and performance cannot be assured.

- Windows 7/Windows 8

The setup for homegroup settings of Windows 7/Windows 8 is required. For details, refer to the help functions of Windows 7/Windows 8.

Home network "DLNA"

Connect to network

Network connections

1. Contact your Broadband service provider

Obtain Broadband Internet service:

- Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively.
- Dial-up Internet service cannot be used for Online Movies.

2. Select wired or wireless connection

If a wired network connection is available near the TV, then using this LAN (Ethernet) connection is recommended.

3. Connecting to the Internet

A. Wireless connection

Home network



- 1** TV (Built-in wireless LAN)
- 2** Home network (modem/wireless router)
- 3** Computer/DLNA Certified media server

■ Wireless connection (without Internet connection)

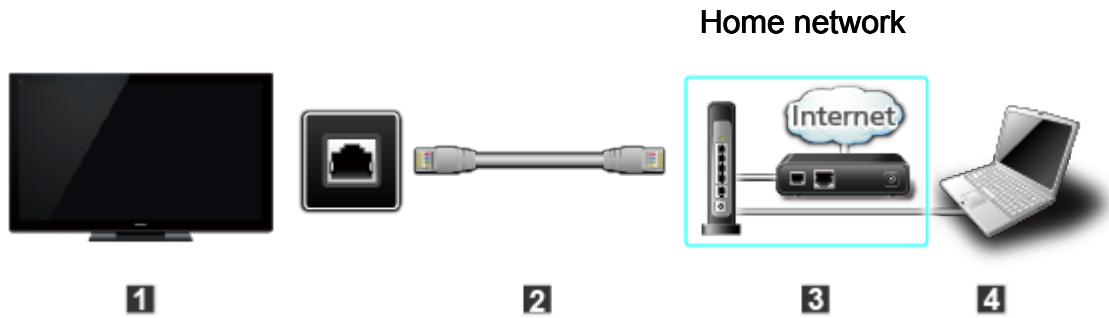
You can connect the TV as an access point to wireless equipment without an Internet connection.



- 1** TV (as Access point)
- 2** Wireless equipments (TV, Smart phone, PC etc.)

* This connection can not be used for Internet services.

B. Wired connection (Using Router)



- 1** TV (Ethernet port)
- 2** LAN (Ethernet) cable
- 3** Home network (modem/router)
- 4** Computer/DLNA Certified media server

C. Wired connection (Directly connected)

If you are not using the network for connecting anything else but the TV, you can just connect the TV directly to the Cable/DSL Ethernet modem with LAN (Ethernet) cable.



- 1** TV (Ethernet port)
- 2** LAN (Ethernet) cable
- 3** Modem

★ To use and operate only DLNA features, a Broadband network environment is not needed. You can simply connect the TV directly to the equipment with a LAN cross cable.

Home network "DLNA"

Network settings

Setting menu

This menu is used for connecting to a Broadband environment.

1. Display the **Menu** and select **Network**

 **MENU** → **Menu** > **Network**

Select **Network** using \triangle / ∇ from menu bar and press 

2. Select the options and set


(**Network connection/Network status/VIERA remote settings/
Network link/Online Movies settings/Software update/
New software notice**)

Home network "DLNA"

Network settings

Network connection/Network status

■ **Network connection/Network status**


- ① Select **Network connection** using \triangle / ∇ and press 
- ② Select **Quick setup** to launch Network connection setup wizard.
Follow the directions on the screen to complete the network connection.
 - Manual settings are also available.
Select **Custom** and select your connection type.
Displays setting menu according to selected connection type.
Set the desired menu and complete the network connection.
- ③ Displays **Network status**
Select **Try again** and press OK to start connection test.
Success → Completion message is displayed.
Error → Select **Status details/Help** and press OK to display solution of the connection error.
Follow the directions on the screen to complete the network settings.
 - You can also display **Network status** from **Network** menu.
(**Network > Network status**)
- ④ Exit the screen
Select **Done** and press OK to exit from this screen.

Home network "DLNA"

Network settings

VIERA remote settings

■ VIERA remote settings

- ① Select **VIERA remote settings** using \triangle / ∇ and press 
- ② Displayed **VIERA remote settings**
- ③ Select the item and set

● VIERA remote

Enables to control the TV from the network equipment (smartphone, etc.).

- Sets to **On** to enable below settings.

- ① Select **VIERA remote** using \triangle / ∇ and press 
- ② Switches **On** or **Off** with \triangle / ∇

● Device to upload contents

Selects device to upload contents from the network equipment (smartphone, etc.).

- ① Select **Device to upload contents** using \triangle / ∇ and press 
- ② Select device and press 

Home network "DLNA"

Network settings

Network link


■ Network link

Setting for DLNA server.

● DLNA server


Enables use this TV as DMS for network devices (DLNA Certified VIERA)

- Sets to **On** to enable below settings.

- ① Select **DLNA server** using \triangle / ∇ and press 
- ② Switches **On** or **Off** with \triangle / ∇

● Registration Type

Selects the limitation of access to this TV for each device on the home network.

- ① Select **Registration type** using \triangle / ∇ and press 
- ② Switches **Auto** or **Manual** with \triangle / ∇

Auto: All the available device on the home network are accessible.(maximum 16 equipment)

Manual: Sets the access limitation for each device in the Remote device List.

● Remote device list

Lists the available device on the home network.

- ① Select **Remote Device List** using \triangle / ∇ and press 
- ② Select the desired device with \triangle / ∇ and set access limitation.

Home network "DLNA"

Network settings

Software update

■ Software update

- ① Select **Software update** using \triangle / ∇ and press 
- ② Press OK to start the Software update screen



- ③ Follow directions on the screen
- Make sure to set **Clock** before the update starts.

Home network "DLNA"

Network settings

New software notice

■ **New software notice**

Displays new software update information when TV is turned on.

- ① Select **New software notice** using \triangle / ∇
- ② Switches **Off** or **On** with \triangle / ∇

Home network "DLNA"

Photos

Viewing Photos

1. Display VIERA TOOLS

 **VIERA TOOLS** → VIERA TOOLS



2. Display DLNA server

Select **DLNA** using ◀ / ▶ and press 

3. Select server (Available DLNA servers are displayed).

Select desired server using ▲ / ▼ from DLNA server list and press 

4. Select photo (Thumbnails and contents are displayed).

Select desired content using ▲ / ▼ from file list and press 

5. View

Follow the navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

Home network "DLNA"

Photos

Photo view

■ Thumbnail view



→ Display [Slideshow settings](#)



→ Information panel (File name, Date, and Size etc.)

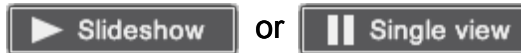
* Information differs depending on selected data.

■ Playback screen



→ Display/hide Guide and Banner

Photo status: Shows current photo status



Navigation Guide: Shows available functions.

- * In DMR mode, Slideshow is not available.
- * In DMR mode, OK/Next/Prev. are not available.

Home network "DLNA"

Photos


Options menu

In Photo view, some optional menus are available pressing **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(**Slideshow settings**)

* Available menus are displayed on **Options menu** depending on data condition and situation.

Home network "DLNA"


Photos

Using slideshow

1. Display **Slideshow settings**

  → **Slideshow settings**

2. Adjust items

Select the item by  /  and adjust the settings using  / 

- Picture quality may deteriorate depending on the slideshow settings.
- Picture setting may not work depending on the slideshow settings.

3. Start Slideshow

After adjusting each setting, select **Start slideshow** with  /  and press 

 **RETURN** → Stop in mid-cycle

Home network "DLNA"

Photos

Slideshow settings

Transition effect

(Off/Fade in/Dissolve/Motion/Random)

Select the Transition effect shown between photos.

Auto Makeup

(On/Off)

Detects a face in the photo, checks the luminance, and then retouches the enhanced image.

Display interval

(Short/Normal/Long)

Display interval sets the time each image is displayed in the Slideshow mode.

Repeat playback

(Off/On)

Turn the Slideshow Repeat (cycle) function on or off.

Soundtrack settings

(Off/Music 1/Music 2/Music 3/Music 4/Music 5)

Select the music.

Home network "DLNA"

Videos

Viewing Videos

1. Display VIERA TOOLS



2. Display DLNA server

Select **DLNA** using ◀ / ▶ and press 

3. Select server (Available DLNA servers are displayed).

Select desired server using ▲ / ▼ from DLNA server list and press 

4. Select video (Thumbnails and contents are displayed).

Select desired content using ▲ / ▼ from file list and press 

5. Play

Follow the navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

Home network "DLNA"

Videos

Video view

■ Thumbnail view



INFO

→ Information panel (File name, Date, and Size etc.)

* Information differs depending on selected data.

■ Playback screen



INFO

→ Display/hide Guide and Banner

Movie banner: Shows current Video status

(Drive type, Date and time or File name and Elapsed time.)

Navigation Guide: Shows available functions.

★ In DMR mode, Next skip/Prev. skip are not available.

• Forward/Reverse: Five levels of speed 1 to 5 are available.

- In DMR mode, Resume playback is not available
- Subtitles are not supported in MKV format.

Home network "DLNA"

Videos


Options menu

In Video view, some optional menus are available pressing **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(**Video options**)

- **Repeat playback**

Set play repeat function (**Off/On**)

* Available menus are displayed on **Options menu** depending on data condition and situation.

Home network "DLNA"

Music

Playing Music

1. Display VIERA TOOLS



2. Display DLNA server

Select **DLNA** using ◀ / ▶ and press 

3. Select server (Available DLNA servers are displayed).

Select desired server using ▲ / ▼ from DLNA server list and press 

4. Select music (Thumbnails and contents are displayed).

Select desired content using ▲ / ▼ from file list and press 

5. Play

Follow the navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

Home network "DLNA"

Music

Music view

■ **Thumbnail view**



INFO

→ Information panel (File name, Date, and Size etc.)
* Information differs depending on selected data.

■ **Playback screen**



INFO

→ Display/hide Guide and Banner

Music Guide: Shows current Music status
(Artist name/Album name/Song name, Elapsed time)

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 are available.
- * In DMR mode, Next skip/Prev. skip/User BGM settings are not available.

Home network "DLNA"

Music


Options menu

In Music view, some optional menus are available pressing **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(Music options)

- **Repeat playback**

Set play repeat function (**Off/Repeat folder/One song**)

* Available menus are displayed on **Options menu** depending on data condition and situation.

Home network "DLNA"

Data information

Compatible Data format

■ **Compatible Data format for Media player (USB flash memory)/DLNA**

Media	Compatible format
Photo	<ul style="list-style-type: none">• JPEG files (DCF and EXIF standards) Sub-sampling - 4:4:4, 4:2:2 and 4:2:0 Image resolution - 8 x 8 to 30,719 x 17,279 pixels
Videos	<ul style="list-style-type: none">• MP4 files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3• MKV files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/ E-AC3/DTS core• FLV files Video codec H.264 Audio codec MP3/AAC• 3GPP files Video codec H.264 Audio codec AAC/HE-AAC• PS files Video codec H.264*/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC*/HE-AAC*/AC3/ E-AC3*/LPCM• TS files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC/HE-AAC/AC3/ E-AC3/DTS core*
Music	<ul style="list-style-type: none">• MP3 files (MP3)• M4A files (AAC) - Copy-protected files cannot be played back.• FLAC files (FLAC)• WAV files (LPCM)

* for Media player only

■ **Supported Subtitles formats**

- MicroDVD, SubRip, TMLayer (.srt, .sub, .txt)
 - The video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
 - If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: "srt" "sub" "txt"

Home network "DLNA"

Data information

Notice

- The picture may not appear correctly on this TV depending on the recording equipment used.
- Some files may not be played back even if they fulfill these conditions.
- Depending on how you make USB Flash Memory or the media server, files and folders may not be displayed in the order you numbered.
- Depending on how you create the files and the structure of folders, the files and folders may not be displayed.
- When there are many files and folders, operation may take time to complete or some files may not be displayed or playable.
- The function cannot display still images that are not DCF formatted (i.e. TIFF, BMP).
- Data modified with a PC may not be displayed.
- Images imported from a PC must be compatible with EXIF 2.0, 2.1 and 2.2.
- Partly degraded files might be displayed at a reduced resolution.
- All ".JPG" extension data in the USB flash memory will be read in Photo Viewer Mode.
- The folder and file names may be different depending on the digital camera used.
- Do not use two-byte characters or other special codes.
- Connected devices may become unusable with this TV if file or folder names are changed.

Media player

Get started

Information

You can view still and motion images and play music saved on a USB flash memory.

■ **USB flash memory**

- When you use a USB device, insert straight in and pull straight out.
- Media player only supports USB Mass storage class devices.
- Remove USB device safely with **USB device setup**.
(**Setup** > **USB device setup**)

Media player

Get started

Media warning messages

Message	Meaning
No media. Please insert USB storage device.	<ul style="list-style-type: none">• The device is not inserted.
No media. Device removed.	<ul style="list-style-type: none">• The device is removed.
No photos/No movies/ No music files to play/ No playable media	<ul style="list-style-type: none">• The device has no data or this type of data is not supported.
Cannot read file	<ul style="list-style-type: none">• The file is broken or unreadable.• The TV does not support the format.

Media player

Photos

Viewing Photos

1. Insert Media

2. Display Media player

 **MEDIA PLAYER** → Media player

You can also access using **VIERA TOOLS**.

3. Select the device in **Drive select** (Displays connected drive)

Select the drive using ◀ / ▶ and press 

4. Select the Photos in **Media select**

Select the drive using ◀ / ▶ and press 

5. Select the photo in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

* How data is displayed differs depending on data storage conditions.

6. View

Follow the Navigation and guide to operate.

* Displayed navigation and guide may differ depending on data type.

■ **Other settings**

Some basic menus are available after pressing the **MENU** button.

 **MENU** → **Menu > Picture/Sound/Timer/Setup/Help**

Media player

Photos

Photo view

■ Thumbnail view



→ Display **Slideshow settings**



→ Display **Sort**



→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)

* Information differs depending on selected data.

■ Playback screen



→ Display/hide Guide and Banner

Photo status: Shows current photo status



Navigation Guide: Shows available functions.

Media player



Photos

Sort the photos

1. Display Sort select menu

  → Sort select menu (**Folders** / **Sort by date** / **Sort by month**)

2. Select the sort type

Select the type using  /  and press 

3. Displayed each screen

Folders: ascending order of numeric/alphabetical

Sort by month: ascending order of the month

Sort by date: ascending order of the day

Media player

Photos

Options menu

In Photo view, some optional menus are available after pressing the **OPTION** button.

1. Display **Options menu**



2. Select the item

Select the desired menu using \triangle / ∇ and press **OK**
(**Slideshow settings/Thumbnails size**)

* Available menus are displayed on **Options menu** depending on data condition and situation.

Media player

Photos

Thumbnails size

■ Thumbnails size

To change the number of photos on a thumbnail screen at a time.

(7 x 4 ⇔ 10 x 6)

Media player

Photos

Using slideshow

1. Display **Slideshow settings**


  → **Slideshow settings**

2. Adjust items

Select the item by \triangle / ∇ and adjust the settings using \triangle / ∇

- Picture quality may become lower depending on the slideshow settings.
- Picture setting may not work depending on the slideshow settings.

3. Start Slideshow

After adjusting each of the settings, select **Start slideshow** with \triangle / ∇ and press 

 **RETURN** → Stop in mid-cycle

Media player

Photos

Slideshow settings

Frame

(Off/Array/Collage/Drift (with calendar)/Drift/Gallery (with calendar)/Gallery/Cinema)

Select the Frame.

Photo effect

(Off/Sepia/Gray scale)

Select the display effect.

Transition effect

(Off/Fade in/Dissolve/Motion/Random)

Select the Transition effect shown between photos.

Auto Makeup

(On/Off)

Detects a face in the photo, checks the luminance, and then retouches the enhanced image.

Photo size

(Normal/Zoom)

Removes the black borders that are added according to the size of the photo being displayed.

Burst playback

(Off/On)

Continuously plays photos that were shot.

Display interval

(Short/Normal/Long)

Display interval sets the time each image is displayed in the Slideshow mode.

Repeat playback

(Off/On)

Turn the Slideshow Repeat (cycle) function on or off.

Soundtrack settings

(Off/Music 1/Music 2/Music 3/Music 4/Music 5/User selected/Auto)

Select the music.

User selected: Plays the soundtrack registered in the **Soundtrack settings** menu.

Auto: Plays the songs on the USB flash memory.

Media player

Photos

Soundtrack settings

You can register the favorite songs as soundtracks

- ① Select **Soundtrack settings** in **Slideshow settings** using \triangle / ∇
- ② Select **User selected** using \triangle / ∇
- ③ Displays **Soundtrack** popup menu, then select the desired song with \triangle / ∇ and press **OK** to register

This song: Register current music

All songs in folder: Register the music in a folder

- Picture setting may not work depending on the slideshow settings.

Media player

Videos

Viewing Videos

1. Insert Media

2. Display Media player

 **MEDIA PLAYER** → Media player

You can also access using **VIERA TOOLS**.

3. Select the device in **Drive select** (Displays connected drive)

Select the drive using ◀ / ▶ and press 

4. Select the Videos in **Media select**

Select the drive using ◀ / ▶ and press 

5. Select the video in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

* How data is displayed differs depending on data storage conditions.

6. Play

Follow the Navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

■ **Other settings**

Some basic menus are available after pressing the **MENU** button.

 **MENU** → Menu > **Picture/Sound/Timer/Setup/Help**

Media player

Videos

Video view

■ Thumbnail view



→ Play the video



→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)

*Information differs depending on selected data.

■ Playback screen



→ Display/hide Guide and Banner

Movie banner: Shows current Video status

(Drive type, Date and time or File name and Elapsed time.)

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 are available.

* Subtitles are not supported in MKV format.

Media player

Videos

Options menu

In Video view, some optional menus are available by pressing the **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(**Video options**)

- **Repeat playback**

Set play repeat function (**On/Off**)

★ Available menus are displayed on **Options menu** depending on data condition and situation.

Media player

Music

Playing Music

1. Insert Media

2. Display Media player

 **MEDIA PLAYER** → Media player

You can also access using **VIERA TOOLS**.

3. Select the device in **Drive select** (Displays connected drive)

Select the drive using ◀ / ▶ and press 

4. Select the Music in **Media select**

Select the drive using ◀ / ▶ and press 

5. Select the music in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

* How data is displayed differs depending on data storage conditions.

6. Play

Follow the Navigation and guide to operate.

* Displayed navigation and guide will be different depending on data type.

■ **Other settings**

Some basic menus are available by pressing the **MENU** button.

 **MENU** → Menu > Picture/Sound/Timer/Setup/Help

Media player

Music

Music view

■ Thumbnail view



→ Play folder



→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)

* Information differs depending on selected data.

■ Playback screen



→ Display/hide Guide and Banner

Music Guide: Shows current Music status

(Artist name/Album name/Song name, Elapsed time)

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 are available.

Media player

Music

Options menu


■ **Music options**

In Music view, some optional menus are available by pressing the **OPTION** button.

1. Display **Options menu**

 **OPTION** → **Options menu**

2. Select the item

Select the desired menu using \triangle / ∇ and press 
(**Music options**)

● **Repeat playback**

Set play repeat function (**Off/Repeat folder/One song**)

★ Available menus are displayed on **Options menu** depending on data condition and situation.

Media player

Data information

Compatible Data format

■ **Compatible Data format for Media player (USB flash memory)/DLNA**

Media	Compatible format
Photo	<ul style="list-style-type: none">• JPEG files (DCF and EXIF standards) Sub-sampling - 4:4:4, 4:2:2 and 4:2:0 Image resolution - 8 x 8 to 30,719 x 17,279 pixels
Videos	<ul style="list-style-type: none">• MP4 files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3• MKV files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/ E-AC3/DTS core• FLV files Video codec H.264 Audio codec MP3/AAC• 3GPP files Video codec H.264 Audio codec AAC/HE-AAC• PS files Video codec H.264*/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC*/HE-AAC*/AC3/ E-AC3*/LPCM• TS files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC/HE-AAC/AC3/ E-AC3/DTS core*
Music	<ul style="list-style-type: none">• MP3 files (MP3)• M4A files (AAC) - Copy-protected files cannot be played back.• FLAC files (FLAC)• WAV files (LPCM)

* for Media player only

■ **Supported Subtitles formats**

- MicroDVD, SubRip, TMLayer (.srt, .sub, .txt)
 - The video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
 - If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: "srt" "sub" "txt"

Media player

Data information

Notice

- The picture may not appear correctly on this TV depending on the recording equipment used.
- Some files may not be played back even if they fulfill these conditions.
- Depending on how you make USB Flash Memory or the media server, files and folders may not be displayed in the order you numbered.
- Depending on how you create the files and the structure of folders, the files and folders may not be displayed.
- When there are many files and folders, operation may take time to complete or some files may not be displayed or playable.
- The function cannot display still images that are not DCF formatted (i.e. TIFF, BMP).
- Data modified with a PC may not be displayed.
- Images imported from a PC must be compatible with EXIF 2.0, 2.1 and 2.2.
- Partly degraded files might be displayed at a reduced resolution.
- All ".JPG" extension data in the USB flash memory will be read in Photo Viewer Mode.
- The folder and file names may be different depending on the digital camera used.
- Do not use two-byte characters or other special codes.
- Connected devices may become unusable with this TV if file or folder names are changed.

Convenience features

Using VIERA TOOLS

Using VIERA TOOLS

VIERA TOOLS is the easy way to access the TV's special features. They are displayed as shortcut icons on the TV screen.

1. Display VIERA TOOLS menu

 **VIERA TOOLS** → VIERA TOOLS

2. Select the item

Select desired item using ◀ / ▶ and press 

3. Access desired feature and set

Follow the directions on screen to use each feature.



(example)

■ Available items

VIERA Link/Media player/DLNA/Eco navigation/eHELP/Touch Pen

Convenience features

Timer

Setting menu

The TV can automatically turn On/Off at a designated date and time.

1. Display the menu

 **MENU** → **Menu**

2. Select **Timer** from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select the item and adjust

Select desired item using \triangle / ∇ and adjust with \triangle / ∇

Convenience features

Timer

Timer (On/Off timer)

Timer set (Off/On)

Enables or disables the Timer.

Inputs

Sets which input will be selected when the TV turns on.

Channel

Sets the channel to select when the TV turns on.

Day

Sets the day when the TV turns on.

[SUN/MON/TUE/WED/THU/FRI/SAT (displays the nearest future date) MON-FRI/SAT-SUN/DAILY/Every SUN/Every MON/Every TUE/Every WED/Every THU/Every FRI/Every SAT]

On time

Sets the time that the TV will turn on at. The TV will turn off after 90 minutes or as specified.

Off time

Sets the time that the TV will turn off at within 24 hours.

Convenience features

Timer

Sleep (Off timer)

Sleep (minutes)

(Off/15 minutes/30 minutes/60 minutes/90 minutes)

Selects how long the TV stays on before it automatically turns off.

Convenience features

Parental control

Setting menu

Locks specified channels or shows to prevent children from watching objectionable content.

You will be asked to enter your password each time you display the Lock menu. Set **Custom** in **Mode** to specify **Channel**, **Game**, **Program** and **Online Movies** settings.


1. Display the menu

 **MENU** → **Menu**

2. Select **Setup** from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select **Parental control**

Select the menu using \triangle / ∇ and press 

4. Select the item and adjust

Select desired item using \triangle / ∇ and adjust with \triangle / ∇

- This television is designed to support the "Downloadable U.S. Region Rating System" when available. (Currently available only in U.S.A.)
- The Off rating is independent of other ratings.
- When placing a lock on a specific-age-based-rating level, the Off rating and any other more restrictive ratings will also be blocked.
- The channels will be blocked regardless of the program rating.

Convenience features

Parental control

Parental control

 **MENU** → **Menu > Setup > Parental control**

Change password

Create a new password. Input the new 4-digit password twice.

(**All settings > Setup > Password setting**)

Mode

(**Off/All/Custom**)

Locks (**All**) or Unlocks (**Off**) all channels, programs or inputs. For **Custom**, Locks specified inputs of **Channel**, **Game**, **Program** and **Online Movies settings**.

Set **Custom** in **Mode** to specify **Channel**, **Game**, **Program** and **Online Movies settings**.

Channel

These channels will be blocked regardless of the program ratings.

Mode

(**Off/All/Custom**)

Locks (**All**) or Unlocks (**Off**) all channels. For **Custom**, Locks specified channels. Set **Channel 1 - Channel 7**.

Channel 1-7

Designates channel number to be blocked at any time, regardless of its broadcast content.

Game

(**On/Off**)

Restricts access to channel 3, channel 4 and all the TV's inputs.

Program

Prohibits viewing of TV content based on the rating provided by the broadcasters.

Mode**(On/Off)**

Sets program lock status. "V-chip" technology enables restricted shows to lock according to TV ratings. On: Set each rating level (MPAA, U.S.TV, C.E.L.R., C.F.L.R.)

MPAA

Selects U.S. movie ratings to lock.

U.S.TV

U.S. TV program ratings.

C.E.L.R.

Canadian English ratings.

C.F.L.R.

Canadian French ratings.

Online Movies**(Viewable/Blocked)**

Locks Online Movies. When you access Online Movies, the "Online Movies Lock" screen is displayed. Type the correct password to enter the screen.

Convenience features

Parental control

Password setting

You need to enter the password when you access locked channels or inputs.



- ★ If it is your first time entering the password, enter the password twice in order to register it.
- ★ Make a note of your password. Do not forget it. (If you have forgotten your password, consult your local dealer.)
- ★ When you select a locked channel, a message will be displayed that allows you to view the channel after you input your password.

Convenience features

Parental control

Parental control ratings

"V-chip" technology enables you to lock channels or shows according to standard ratings set by the entertainment industry.

■ U.S. MOVIE RATINGS (MPAA)

■ U.S. TV PROGRAMS RATINGS (U. S. TV) - Age-Based Ratings

NR	Not Rated.
G	All children and General Audience.
PG	Parental Guidance suggested.
PG-13	Parental Guidance for children under 13.
R	Restricted Viewing, parental guidance is suggested for children under 17.
NC-17/X	No one 17 or under allowed.

TV-NR	Not Rated.
TV-Y	All children.
TV-Y7	Directed to children age 7 and older.
TV-G	General Audience.
TV-PG	Parental Guidance suggested.
TV-14	Parents strongly cautioned, parental guidance is suggested for children under 14.
TV-MA	Mature Audience only.

■ CANADIAN ENGLISH RATINGS (C. E. L. R.)

■ CANADIAN FRENCH RATINGS (C. F. L. R.)

E	Exempt programming.
C	All children.
C8+	Children 8 years and older.
G	General programming.
PG	Parental Guidance.
14+	Viewers 14 and older.
18+	Adult programming.

E	Exempt programming.
G	General programming.
8 ans+	Not recommended for young children.
13 ans+	Not recommended for ages under 13.
16 ans+	Not recommended for ages under 16.
18 ans+	Programming restricted to adults.

Contents-Based Ratings

FV	Fantasy Violence.	S	Sexual situations.
D	Suggestive Dialogue.	V	Violence.
L	Strong Language.		

Caution

The V-Chip system used in this set is capable of blocking "NR" programs (non rated, not applicable and none) as per FCC Rules Section 15.120(e)(2). If the option of blocking "NR" programs is chosen "unexpected and possibly confusing results may occur, and you may not receive emergency bulletins or any of the following types of programming:"

- Emergency Bulletins (Such as EAS messages, weather warnings and others)
- Locally originated programming • News • Political • Public Service Announcements • Religious • Sports • Weather

Convenience features

Closed caption

Setting menu

The television includes a built-in decoder that is capable of providing a text display of the audio. The program being viewed must be transmitting the Closed caption (CC) information.

- The settings are "Analog" or "Digital" depending on the broadcaster.

1. Display the menu

 **MENU** → **Menu**

2. Select **Setup** from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select **Closed Caption** in **Display customization**

Select the menu using \triangle / ∇ and press 

4. Select the item and adjust

Select desired item using \triangle / ∇ and adjust with \triangle / ∇

- ★ Some functions will be disabled depending on the type of input signal.
Reset to defaults will be grayed out if no changes are made.

Convenience features

Closed caption

Closed caption

 **MENU** → [Menu](#) > [Setup](#) > [Display customization](#) > [Closed Caption](#)

Mode

(Off/On/CC on mute)

On: To display Closed captions.

CC on mute: To display Closed captions when the audio is muted. (When not using, select **Off**).

Analog

(CC1-4/T1-4)

Choose the Closed caption service of Analog broadcasting.

CC1-4: Information related to pictures (Appears at the bottom of the screen)

T1-4: Textual information (Appears over the entire screen)

Digital

(Primary/Second./Service 3/4/5/6)

The Digital Closed caption menu lets you configure the way you choose to view the digital captioning.

Digital setting

Set display settings in digital programs.

Size

Select the text size

Font

Select the text font

Style

Select the text style (Raised, Depressed, etc.)

Foreground

Select the color of text

Foreground opacity

Select the opacity of text

Background

Select the color of text box

Background opacity

Select the opacity of text box

Outline

Select the outline color of text (Identify the setting options on the screen).

Reset to defaults

Resets all Closed caption settings to factory default settings.

Convenience features

Closed caption

Closed caption notice

- For viewing the CC of digital broadcasting, set the aspect to FULL (If viewing with H-FILL, JUST, ZOOM or 4:3, characters might be cut off).
- The CC can be displayed on the TV only when the receiver (such as a Cable box or satellite receiver) has the CC set to ON within the device itself. Check with your Cable or Satellite provider for instructions. The TV's CC button does not operate the Satellite or Cable box's CC function.
- If the CC is set to ON on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.
- If a digital program is being output in analog format, the CC data will also be output in analog format.
- If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

Convenience features

VIERA Link™ "HDAVI Control™"

Basic feature

Simultaneously control all Panasonic "HDAVI Control" equipped components using one button on the TV remote. Enjoy additional HDMI Inter-Operability with compatible Panasonic products. This TV supports "HDAVI Control 5" function. Connections to equipment (Blu-ray Disc player, DVD recorder, HD Camcorder, Home Theater System, Amplifier, etc.) with HDMI cables enables VIERA Link controls.

■ Available HDAVI Control functions

Version	Operations
HDAVI Control or later	<ul style="list-style-type: none">• Automatic Input Switching• Power on link• Power off link• Default speakers• Speaker control
HDAVI Control 2 or later	<ul style="list-style-type: none">• VIERA Link control only with the TV's remote control• Unselected device auto off (for available equipment only)
HDAVI Control 3 or later	<ul style="list-style-type: none">• Automatic lip-sync function
HDAVI Control 4 or later	<ul style="list-style-type: none">• Energy saving mode (with Quick Start mode)
HDAVI Control 5	<ul style="list-style-type: none">• Audio Return Channel <p>Audio Return Channel (ARC) is a function that enables digital sound signals to be sent via an HDMI cable back from the TV to a connected audio device.</p>

Convenience features

VIERA Link™ "HDAVI Control™"

Connecting note

■ When adding new equipment...

When adding new equipment, reconnecting equipment or changing the setup after the connection, turn the equipment on and then switch the TV on. Set the input mode to correct HDMI terminal, and make sure that the image is displayed correctly.

VIERA Link "HDAVI Control", is based on the control functions provided by HDMI and industry standard known as HDMI CEC (Consumer Electronics Control), with unique function that we have developed and added. As such, its operation with other manufacturers' equipment that supports HDMI CEC cannot be guaranteed. Please refer to the individual manuals for other manufacturers' equipment supporting the VIERA Link function.

■ HDMI cable

This function needs an HDMI compliant (fully wired) cable. Non-HDMI-compliant cables cannot be utilized.

- For more details on the external equipment's connections, please refer to the operating manual for the equipment.

HDMI connections to some Panasonic equipment allow you to interface automatically.

- This function may not work normally depending on the equipment condition.
- The equipment can be operated by other remote controls with this function on, even if the TV is in Standby mode.
- Image or sound may not be available for the first few seconds when playback starts.
- Image or sound may not be available for the first few seconds when input mode is switched.
- Volume function will be displayed when adjusting the volume of the equipment.
- If you connect equipment that has "HDAVI Control 2" or later function to the TV with an HDMI cable, the sound from the DIGITAL AUDIO OUT terminal can be output as multi-channel surround.
- "HDAVI Control 5" is the newest standard for the HDAVI Control compatible equipment.
This standard is compatible with the conventional HDAVI equipment.

If connection (or setting) of equipment compatible with HDAVI control is changed, switch the power of this unit Off and On again while the power of all equipment is On (so that the unit can correctly recognize the connected equipment) and check that the connected equipment playback operates.

Convenience features

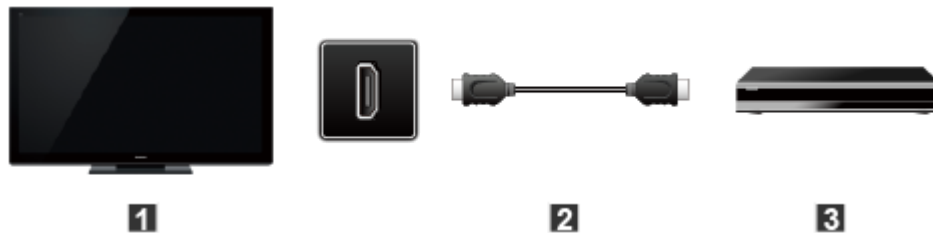
VIERA Link™ "HDAVI Control™"

VIERA Link connections

■ Connecting Blu-ray Disc player/DVD Recorder

Connect the HDMI terminal of this TV to the DVD recorder with VIERA Link function using a fully wired HDMI cable.

- You can use any HDMI terminal on this TV.



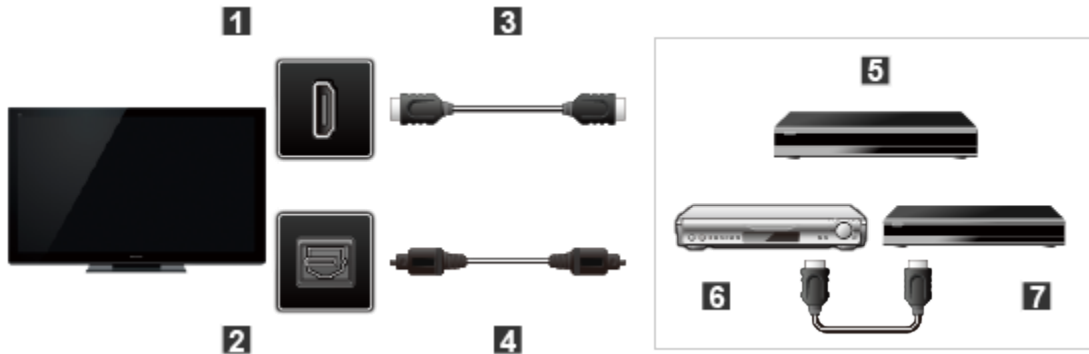
- 1 TV (HDMI)
- 2 HDMI cable
- 3 DVD recorder with VIERA Link function

■ Connecting Home theater system/AV amp

HDMI and Audio connection.

Connect the HDMI terminal and DIGITAL AUDIO OUT to Home Theater System/AV amp with VIERA Link function using each fully wired HDMI cable and Optical audio cable.

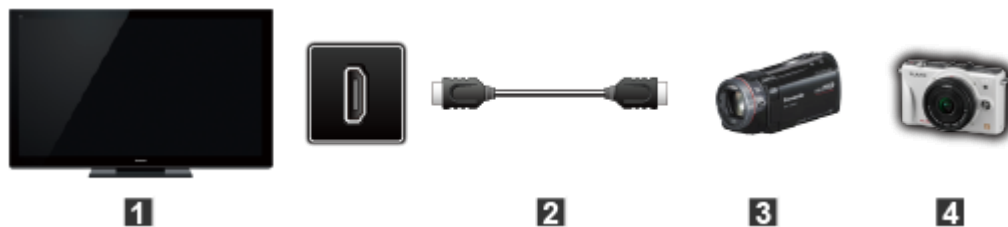
- HDMI 2 is recommended.
- No optical cable is necessary when connecting a Home Theater supporting "HDAVI control 5" with an HDMI cable.
Audio will be supported via ARC (Audio Return Channel)
- One AV amp and one Blu-ray Disc player/DVD recorder can be operated with this unit by connecting with an HDMI cable.



- 1 TV (HDMI)
- 2 TV (DIGITAL AUDIO OUT)
- 3 HDMI cable
- 4 Optical cable
- 5 Home theater system with VIERA Link function
- 6 AV amp with VIERA Link function
- 7 DVD recorder with VIERA Link function

■ **Connecting an HD Camcorder/Digital camera**

Press INPUT and select an available HDMI terminal, then connect the HD camcorder/Digital camera with VIERA Link function to this input with fully wired HDMI/mini HDMI cable.



- 1 TV (HDMI)
- 2 HDMI / mini HDMI cable
- 3 HD Camcorder with VIERA Link function
- 4 LUMIX with VIERA Link function

- ★ Individual HDMI equipment may require additional menu settings specific to each model. Please refer to their respective manuals.
- ★ When audio from other equipment connected to this unit via HDMI is output using "DIGITAL AUDIO OUT" of this unit, the system switches to 2CH audio.
(When connecting to an AV amp via HDMI, you can enjoy higher sound quality.)
- ★ Some devices use Mini-HDMI terminal. HDMI (type A) to Mini-HDMI (type C) cable or adapter should be used.

Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link settings

To use all VIERA Link functions: After everything is connected, set **VIERA Link** to **On** in VIERA Link settings menu.

Some features are disabled depending on the "HDAVI Control" version of the equipment.

1. Display the menu

 **MENU** → **Menu** > **Setup**

2. Select **VIERA Link settings**

Setup > **VIERA Link settings**

Select **Setup** using \triangle / ∇ from menu bar and press  then select **VIERA Link settings** with \triangle / ∇ and press  again.

3. Select **VIERA Link** and set to **On**

Select **VIERA Link** and press  then select **On** with \triangle / ∇

4. Select and set other **VIERA Link settings**

**(Power on link/Power off link/Energy saving mode/
Unselected device auto off)**

Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link settings feature

■ **Automatic Input Switching**

When using a Blu-ray Disc player, DVD player/recorder or Home theater system, the TV will automatically change to the appropriate input, when playback begins on one of those devices.

- For a Home Theater System the speakers automatically switch to the theater system.

■ **Power on link**

Yes: The TV is turned on automatically and switches to the appropriate HDMI input whenever VIERA Link compatible equipment is initially turned on and the Play mode is selected.

■ **Power off link**

When **Yes** is selected and the TV is turned off, all connected VIERA Link compatible equipment is also automatically turned off.

- A Panasonic DVD Recorder will not turn off if it is still in Rec mode.
- The TV remains on even if the VIERA Link compatible equipment is turned off.

■ **Energy saving mode**

Quick start: When TV is turned off, all connected VIERA Link compatible equipment is moved to ECO Standby mode* automatically under these conditions.

- Power off link: (**Yes**), The connected equipment has "HDAVI Control 4 or later (with Quick Start mode)"
- * Minimum power consumption of Standby condition for the equipment.

■ **Unselected device auto off**

On: The connected VIERA Link compatible equipment will be turned off automatically when not in use under these conditions.

- The connected equipment has "HDAVI Control 2 or later" (for available equipment only)
[Example of timing for operation]
- When the input is switched from HDMI.

■ **Automatic lip-sync function**

Minimizes time delay between the picture and audio when you connect to a Panasonic theater system or Amplifier.

Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link

Some features are disabled depending on the "HDAVI Control" version of the equipment.

1. Display the **VIERA Link** menu



VIERA TOOLS → VIERA Link

2. Select the item and set (**VIERA Link control/Speaker output/Back to TV**)

Select the desired menu using \triangle / ∇ and set with \triangle / ∇

* Items in the VIERA Link menu may be grayed out if no compatible equipment is connected (must be HDAVI Control 2 or later) or if the equipment has not initiated a connection with the TV. In that case, switch the equipment's power Off and On while the TV is On.

Convenience features

VIERA Link™ "HDAVI Control™"

VIERA Link menu

■ Speaker control

You can select the Home theater or TV speakers for audio output. Control the theater speakers with the TV remote control. This function is available only when a Panasonic Amplifier or Player theater is connected.

- ① Select **Speaker output** using \triangle / ∇
- ② Select **Home theater** or **TV** with \triangle / ∇

Home theater: Adjustment for the equipment

VOL(+/-) and **MUTE** buttons are available

- The sound of the TV is muted.
- When the equipment is turned off, the TV speakers take over.
- Selecting **Home theater** turns the equipment on automatically if it is in Standby mode.

TV: The TV speakers are on.

■ VIERA Link control only with the TV's remote control

- ① Select **VIERA Link control** using \triangle / ∇
- ② Select the desired equipment with \triangle / ∇ (You can select available items only.)

(Recorder/Home theater/Player/Camcorder/LUMIX/Other)

- If there is more than one equipment item, a number after the name indicates the number of items. (e.g. Recorder1/Recorder 2/Recorder 3...)
 - The number of equipment items that can be connected is three for recorders, and a total of three for Home Theater/Player/Camcorder/LUMIX/Others.
- ③ Operate the equipment with the TV remote control, pointing it at the TV

- * There is a limit to the number of HDMI connectors.
- * To operate the equipment, read the manual for the equipment.
- * For available TV remote control buttons, whether or not an operation is available differs depending on the connected equipment.

■ Back to TV

Returns the input selection of the device selected with the VIERA Link Control to the TV input.

Select **Back to TV** using \triangle / ∇ and press 

Convenience features

Using Electronic Touch Pen

Information

This function allows you to paint or play games on the TV screen using the Optional Electronic Touch Pen (Touch Pen).

- Touch Pen is not included, but can be purchased separately.
- Please connect the Bluetooth adapter (included with the Touch Pen) to this TV by following the instructions in the manual of the Touch Pen.
- The Touch Pen is only available for specific applications.

Convenience features

Using Electronic Touch Pen

Touch Pen settings

■ **Pairing**

To use the Electronic Touch Pen, you need to pair the Touch Pen to the TV.

1. Press Power button to turn on the Touch Pen.

2. Pair the Touch Pen

Displays Touch Pen pairing screen

 **MENU** → **Menu** > **Setup** > **Touch Pen setup** > **Pairing**

Follow the instructions on screen to complete the pairing.

- Place the Touch Pen within 1.6ft (50 cm) of the TV while registration is in progress.
- This TV can be paired with up to 2 Touch Pens simultaneously. Pairing condition (How many Bluetooth devices are connected currently, etc.) may differ depending on the registration status for each Bluetooth device.
- Only one Bluetooth adapter is required, even if you use more than one Touch Pen.

■ **Unpair**

Unpairs all registered Touch Pens.

Displays Touch Pen unpair screen

 **MENU** → **Menu** > **Setup** > **Touch Pen setup** > **unpair**

Follow the instructions on screen to unpair the Touch Pen.

Convenience features




Using Electronic Touch Pen

Using Touch Pen

■ How to paint on the photo / video

1. Press Power button to turn on the Touch Pen
2. Display the following images
 - Digital TV from ANTENNA/Cable Input
 - HDMI input
 - Photo / video contents of Media Player / Network services
3. Touch the pen tip to the TV screen for a few seconds
4. Once the confirmation screen is displayed, follow the instructions on screen.
 - You can save the image after painting in Photo mode of Media Player / Network services.

■ Using applications (painting, playing games, etc.)

1. Press Power button to turn on the Touch Pen
2. Display VIERA TOOLS
 -  **VIERA TOOLS** → VIERA TOOLS
3. Select **Touch Pen** with ◀ / ▶ and press 
4. Select the desired item and press  to access
5. Follow the on-screen instructions

■ Basic operation for the Touch Pen

Tap: Touch the pen tip to the panel and release it quickly.

Hold/Release: Hold the pen tip against the panel. / Release the pen tip from the panel.

Drag and drop: Move with the pen tip touching the panel.

- Operations differ depending on application.

- You can also access Touch Pen mode directly by using VIERA TOOLS.
- For details, read the manual of the Touch Pen.

Convenience features

Control by Smartphone, etc.

Smartphone remote

You can use your smartphone as your TV's remote control.

1. Select **Network**

 **MENU** → **Menu > Network**

2. Select **VIERA remote in **VIERA remote settings****

Select desired menu using \triangle / ∇

3. Set the item

Switches to **On** using \triangle / ∇

* This function is subject to change without notice.
For more details please visit below site:
<http://panasonic.net/viera/support>

Convenience features

Using USB Keyboard / Gamepad

Keyboard

The USB Keyboard requiring its driver is not supported.

■ **To select the language type for the keyboard**



MENU

→ **Menu > Setup > System > Keyboard type**

■ **Key map**

Some of the keys of USB keyboards may correspond to the operation of the remote control.

Keyboard	Remote Control	Keyboard	Remote Control
↑ / ↓ / ← / →	Cursor buttons	F5	Channel down
Enter	OK	F6	Channel up
Back Space	Back/Return	F7	Volume down
ESC	EXIT	F8	Volume up
0 - 9	Numeric buttons	F9	Red
F1	MENU	F10	Green
F2	VIERA TOOLS	F11	Blue
F3	OPTION	F12	Yellow
F4	Input		

Convenience features

Using USB Keyboard / Gamepad

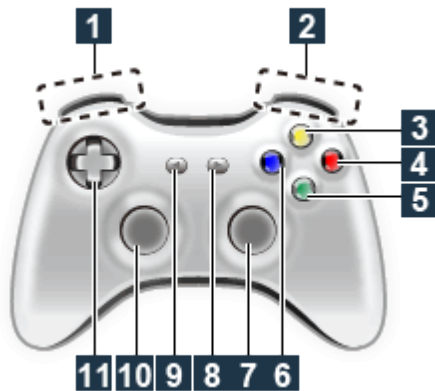
Gamepad

The Gamepad requiring its driver is not supported.

■ **Key map**

Some of the buttons of gamepad may correspond to the operation of the remote control.

Example:



Gamepad	Remote Control
1	Volume up/down
2	Channel up/down
3	MENU
4	OK
5	Back/Return
6	INTERNET
7	VIERA TOOLS
8	EXIT
9	INPUT
10	OPTION
11	Cursor buttons

All settings

How to use

Setting menu

Various menus allow you to set the picture, sound, and other functions.

- Some menus are grayed out depending on the input signal or condition. (e.g. **V-position/V-size** will be grayed out if the aspect is not set to **ZOOM**.)

1. Display the menu

 **MENU** → **Menu**

2. Select the menu from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select the item and adjust

Select desired item using \triangle / ∇

You can also access to desired menu using $\triangleleft / \triangleright$

Adjust the item: Using $\triangleleft / \triangleright$

Set/change the item: Using \triangle / ∇

- * Shows the functions that can be adjusted.
- * Some functions will be disabled depending on the type of input signal.

All settings

Picture

Basic settings

Adjust the image or picture quality.

 **MENU** → **Menu > Picture**

Picture mode

(Vivid/Standard/Home theater/Cinema/Custom)

Selects from preset picture modes for optimal viewing. Mode is saved separately for each input.

Contrast, Brightness, Color, Tint, Sharpness

Adjusts the color, brightness, etc. for each picture mode to suit your taste.

- Display range
Contrast/Color/Sharpness : 0 - 100 Brightness/Tint :-50 - +50
-

Color temp.

(Cool2/Cool1/Normal/Warm1/Warm2)

Selects color temperature preference, from "cool" (bluish) to "warm" (reddish) or normal.

Vivid color

(Off/On)

Enhances green and blue color reproduction, especially outdoor scenes.

C.A.T.S.

(Off/On)

Contrast Automatic Tracking System (C.A.T.S.) adjusts the screen brightness and contrast according to the room's ambient light conditions.

This ECO feature automatically dims the brightness of the screen when the room lighting is lowered. C.A.T.S. features a built-in delay when the lighting conditions change. The adjustment happens gradually.

If you prefer a consistent brightness, disable C.A.T.S. by:

Menu > Picture > scroll down to C.A.T.S. and turn it off. Or

Menu > Picture > Picture mode then select viewing mode such as **Custom**.

Note: **Standard** picture mode automatically sets C.A.T.S. to **On**.

Video NR**(Auto/High/Mid/Low/Off)**

Reduces noise, commonly called snow. Leave it off when receiving a strong signal.

MPEG NR**(Off/Weak/Medium/Strong/Auto)**

Reduces noise of specific digital signals of DVD, Cable box, etc.

All settings

Picture

Pro settings

Adjust the picture mode in more detail.
Set **Picture mode** to **Custom/Cinema** first.

 **MENU** → **Menu** > **Picture** > **Pro settings**

Panel brightness

(Low/Mid/High)

Selects different levels of overall panel brightness.

AGC

(0-15)

Automatic Gamma Control. Increases automatically the brightness of a dark signal.

Black extension

(0-15)

Adjust the gradations in dark shades of the image.

Color gamut

(Normal/Native)

Each color space is a matrix composed of red, green & blue colors. Select your preference.

W/B detail adjustment

W/B high R, G, B (+/-50)

Adjusts the white balance for light red/green/blue areas.

W/B low R, G, B (+/-50)

Adjusts the white balance for dark red/green/blue areas.

Reset to defaults

Reset **W/B detail adjustment** adjustments to factory defaults settings.

Color detail adjustment

Red, Green, Blue hue (+/-50)

Adjusts the red/green/blue hue between light, pastel and vivid.

Red, Green, Blue saturation (+/-50)

Adjusts the difference of the red/green/blue color against its own brightness.

Red, Green, Blue luminance (+/-50)

Adjusts the luminance of red/green/blue areas.

Reset to defaults

Reset **Color detail adjustment** adjustments to factory defaults settings.

Gamma detail adjustment

Gamma

(S-curve/1.8/2.0/2.2/2.4/2.6)

Gamma correction. Adjusts the intermediate brightness of the image.

Reset to defaults

Reset **Gamma detail adjustment** to factory defaults settings.

Reset to defaults

Resets all **Pro settings** adjustments to factory default settings.

All settings

Picture

Advanced picture



MENU

→ **Menu** > **Picture** > **Advanced picture**

24p Direct in (60Hz/48Hz)

48Hz: Achieves more cinematic playback by reproducing the movie contents at twice the speed of 24 frames per second.

- Available for 1080p/24Hz content via HDMI.
 - Gray-out if **Game mode** is set to **On**.
-

3:2 pulldown (Off/On/Auto)

Reduces jaggies in film-based content by transforming 24 fps to 30 fps (non-HDMI).

- Available for interlaced content (480i or 1080i) via analog source.
 - Gray-out if **Game mode** is set to **On**.
-

1080p pixel direct (Off/On)

Enables the support of a 4:4:4 digital video format signal. Use only with a 4:4:4 capable source.

Note:

- Available only for HDMI 1080p input.
 - Gray-out if signal is not 1080p 24/60 4:4:4.
-

HDMI content type (Off/Auto/Photos/Graphics)

Based on a HDMI content type, picture is adjusted for optimum playback automatically. **Photos/Graphics** be able to select manually. **Cinema** be able to select manually in the **Picture mode** menu.

Auto: Switches content type automatically depending on the HDMI signal information.

Photos: Best setting for JPEG viewing.

Graphics: Best setting for On-Screen display of connected equipment.

Auto detail settings

Selectable the effect on each content type in **Auto** mode.

HDMI/DVI RGB range

(Auto/Standard (16-235)/Nonstandard)

Prevents the blown out highlights and blocked up shadows when a wide-range signal is received. Selects between standard RGB range (16-235 bits) or non compliance (0-255 bits).

Auto: Switches the RGB range (Standard (16-235)/Nonstandard) depending on the HDMI signal information.

Black level

(Light/Dark)

Select Dark when details are washed out in dark areas of picture from external source.

- Available when input is set to external source.
-

3D Y/C filter

(Off/On)

Minimizes rough edges (dot crawl) in the picture from a composite source.

All settings

Picture

Screen settings



MENU

→ **Menu** > **Picture** > **Screen settings**

Screen format

(Full/H-FILL/JUST/SIDECUT JUST/4:3/ZOOM/SIDECUT ZOOM)

SD signal : Full → JUST → 4:3 → ZOOM

HD signal : Full → H-FILL → JUST → SIDECUT JUST → 4:3 →
ZOOM → SIDECUT ZOOM

Changes the format (aspect ratio). Lets you choose the aspect depending on the format of received signal.

Overscan

(Off/On)

Selects the screen area displaying the image for FULL aspect.

On: Enlarges the image to hide the edge of the image.

Off: Displays the image in the original size.

Set to On if noise is generated on the edge of the screen.

H size

(Size 1/Size 2)

Adjusts the horizontal display range to reduce noise of both side edges of an image.

Size 2: Adjusts the image size according to the aspect mode to reduce noise.

Aspect mode: 4:3

The width will be decreased on both sides to reduce noise.

Aspect mode: FULL/JUST/Sidecut Just/(H-FILL/ZOOM/Sidecut Zoom)

The width will be increased on both sides to reduce noise.

Zoom adjustments

Adjusts vertical position and size when FORMAT setting is set to **JUST** or **Zoom**.

- JUST: V-size max is 3

- ZOOM: V-size max is 15

Screen display

(Off/On)

Turns the screen off when you select.

- The sound is active even if the screen turns off.
 - Press any buttons to turn the screen on.
 - This function is effective in reducing power consumption when listening to the sound without watching the TV screen.
-

4:3 side bars

(Off/Low/Mid/High)

Changes the brightness of the side bar. The recommended setting is **Brightness** to prevent the panel "Image retention". Do not display a picture in 4:3 mode for an extended period, as this can cause "Image retention" to remain on either or both sides of the display field. To reduce the risk of such "Image retention", change the brightness of the side bars. The side bar may flash (alternate black/white) depending on the picture.

* 4:3 mode only

Pixel orbiter

(On/Auto)

Slightly shifts the image to reduce the possibility of image retention.

Screen wipe

Press "OK" to start the horizontal "Scrolling" on the screen. Press any key except the POWER key to return to previous screen.

All settings

Picture

Other settings

Copy adjustments

You can copy the selected **Cinema** or **Custom** settings and apply them to all or other input.

Settings are basic picture settings and Pro settings.

Reset to defaults

Resets all picture adjustments to factory default settings except for advanced settings.

All settings

Sound

Basic settings

Adjust audio quality.

 **MENU** → **Menu > Sound**

Sound mode

(Standard/Music/Speech/User)

Selects your favorite sound mode.

- The selected mode affects all input signals.

Standard: Provides the suitable sound quality for all types of scenes.

Music: Improves sound quality for watching music videos, etc.

Speech: Improves sound quality for watching news, drama, etc.

- In Music and Speech modes, you can adjust **Bass** and **Treble** settings, and those settings will be stored for each mode.

User: Adjusts the sounds manually by using the equalizer to suit your favorite sound quality.

- For the User mode, **Equalizer** will appear on the Sound Menu instead of **Bass** and **Treble**. Select **Equalizer** and adjust the frequency.
-

Bass

Increases or decreases the bass response.

- Gray-out if **Sound mode** is set to **User**.
-

Treble

Increases or decreases the treble response.

- Gray-out if **Sound mode** is set to **User**.
-

Equalizer

(150Hz/250Hz/500Hz/1kHz/2kHz/4kHz/8kHz/12kHz/Reset to default)

Adjusts the frequency level to suit your favorite sound quality.

- This function is available when **Sound mode** is set to **User**.
 - Select the frequency and change the frequency level by using the cursor button.
 - To enhance the bass sound, raise the level of the lower frequency. To enhance the treble sound, raise the level of the higher frequency.
 - To reset the levels of each frequency to the default settings, select **Reset to defaults** by using the cursor button, and then press the **OK** button.
-

Balance

Emphasizes the left/right speaker volume.

- Gray-out when using Home Theater.

All settings

Sound

Advanced settings

Surround

(Off/On)

Enhances audio L/R response when listening to stereo. Ideal for music and action movies.

- Gray-out when using Home Theater.
-

A.I. sound

(Off/On)

Equalizes overall volume levels across all channels and external inputs.

- Gray-out when using Home Theater.
-

Volume leveler

(+/-6)

Minimizes volume disparity after switching to external inputs.

- Gray-out when using Home Theater.
-

Distance to wall

(Over 1ft(30cm)/Up to 1ft(30cm))

Over 1ft(30cm): TV is on a stand. Keeps current setup.

Up to 1ft(30cm): TV is mounted. Reduces low frequency level to prevent resonance.

Preferred audio type

(Main Audio/Hearing Impaired/Visually Impaired)

Allows setting of the accessible audio format when it's broadcast and the language setting matches.

Digital audio out selection

(Auto/PCM)

Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT and HDMI 2 (ARC function) terminals.

Auto: Dolby Digital Plus, Dolby Digital and HE-AAC multi-channel are output as Dolby Digital Bit stream. MPEG is output as PCM.

PCM: Digital output signal is fixed to PCM.

- For video contents of Media Player / Network services.
 - ARC (Audio Return Channel): A function of digital audio output using HDMI cable.
-

**HDMI input (HDMIx in)
(Digital/Analog)**

The default setting is **Digital** for the HDMI connection. (Digital input signal)
Select audio input terminal when a DVI cable is connected along with an analog audio input signal.

Reset to defaults

Resets all Audio adjustments to factory default settings.

All settings

Sound

DIGITAL AUDIO OUT terminal

You can enjoy your Home Theater by connecting a Dolby Digital (5.1 channel) decoder and "Multi Channel" amplifier to the DIGITAL AUDIO OUT terminals.

- Depending on your DVD player and DVD-Audio software the copyright protection function may operate and disable optical output.
- When an ATSC channel is selected, the output from the DIGITAL AUDIO OUT jack will be Dolby Digital. When channel is selected, the output will be PCM.
- When playing a movie on Movie player, when the sound has been recorded in Dolby Digital, the output from the DIGITAL AUDIO OUT terminal will be Dolby Digital. When the sound is recorded in other formats, the output will be PCM.

All settings

Network

Network settings

 **MENU** → **Menu** > **Network**

Network connection

Connects the TV to the home network. Searches for wireless network or establishes wired connection.

Follow the directions on the screen to complete the network settings.

Network status

Tests the connection between the TV to the local router and the Internet.

Displays Current settings and status screen. (Network type/Wireless settings/MAC address/IP Address etc.)

* Displayed items differ depending on the type of network connection.

VIERA remote settings

Sets a network-based remote control.

VIERA remote

(On/Off)

Enables to control the TV from the network equipment (smartphone, etc.).

- Sets to **On** to enable below settings.

Device to upload contents

Selects device to upload contents from the network equipment (smartphone, etc.).

Network link

Settings for DLNA Server.

DLNA server**(On/Off)**

Enables use this TV as DMS for network devices (DLNA Certified VIERA)

- Sets to **On** to enable below settings.

Registration Type**(Auto/Manual)**

Selects the limitation of access to this TV for each device on the home network.

Auto: All the available device on the home network are accessible.(maximum 16 equipment)

Manual: Sets the access limitation for each device in the Remote device List.

Remote device list

Lists the available device on the home network.

Online Movies settings

Available services are displayed.

Off: The items are not displayed on Online Movies screen.

Software update

Check if software (firmware) update for the TV is available.

Press OK to start the Software update screen. And follow directions on the screen.

- * Set **Clock** first.
-

New software notice**(Off/On)**

Selects whether or not to display a notification message when a software (firmware) update is available for download. Follow the directions on the screen to download.

All settings

Timer

Setting menu

Adjusts the TV's date and time. (Needed for timer function)

 **MENU** → **Menu > Timer**

All settings

Timer

Clock settings

Mode

(Auto/Manual)

Sets the date and time manually or automatically via Internet connection.

Date, Time

(Year/Month/Day/Hour/Minute)

Current date

Time zone

(EST/CST/MST/PST/AKST/HST/NST/AST)

Selects your time zone, to enable correct automatic date and time settings.

DST

(+1 hour/+1/2 hour/Off/Auto)

Selects if Daylight Saving Time is currently observed.

All settings

Timer

Sleep (Off timer)

Sleep (minutes)

(Off/15 minutes/30 minutes/60 minutes/90 minutes)

Selects how long the TV stays on before it automatically turns off.

All settings

Timer

Auto turn off settings

No activity for 4 hours (Power TV off/Stay on)

To conserve energy, the TV automatically turns off when no operation of remote and side panel key continues for more than 4 hours.

Not in use when "On/Off Timer" is set. "No activity for 4 hours was activated" will be displayed for about 10 seconds when the TV is turned on for the first time after the power was turned off by "No activity for 4 hours" feature. The on-screen display will flash 3, 2 and 1 to indicate the last three (3) remaining minutes prior to the shut-off.

No signal for 10 minutes (Power TV off/Stay on)

To conserve energy, the TV automatically turns off when NO SIGNAL and NO OPERATION continue for more than 10 minutes. Not in use when "On/Off Timer" is set. "No signal for 10 minutes was activated" will be displayed for about 10 seconds when the TV is turned on for the first time after the power was turned off by "No signal for 10 minutes" feature. The on-screen display will flash 3, 2 and 1 to indicate the last three (3) remaining minutes prior to the shut-off.

All settings

Timer

Timer (On/Off timer)

Timer set (Off/On)

Enables or disables the Timer.

Inputs

Sets which input will be selected when the TV turns on.

Channel

Sets the channel to select when the TV turns on.

Day

Sets the day when the TV turns on.

[SUN/MON/TUE/WED/THU/FRI/SAT (displays the nearest future date) MON-FRI/SAT-SUN/DAILY/Every SUN/Every MON/Every TUE/Every WED/Every THU/Every FRI/Every SAT]

On time

Sets the time that the TV will turn on at. The TV will turn off after 90 minutes or as specified.

Off time

Sets the time that the TV will turn off at within 24 hours.

All settings

Setup

Setting menu

 **MENU** → [Menu](#) > [Setup](#)

All settings

Setup

Eco navigation

Eco navigation

Set to Eco: Sets the TV to the most suitable energy-saving mode automatically.

Optimizes the TV's various modes to save energy.

Note: The TV's brightness will adjust and adapt as the room lighting changes.

All settings

Setup

USB device setup

USB device setup

Remove USB device safely.

All settings

Setup

Touch Pen setup

Touch Pen setup

Settings for your Touch Pen

Pairing

Pairing your Touch Pen with your TV.

Follow the instructions on screen to complete the pairing.

Unpair

Remove pairing between your Touch Pen and TV.

Safety precautions

Displays the safety precautions when using your Touch Pen.

All settings

Setup

Parental control



MENU

→ **Menu > Setup > Parental control**

Change password

Create a new password. Input the new 4-digit password twice.

(**All settings > Setup > Password setting**)

Mode

(**Off/All/Custom**)

Locks (**All**) or Unlocks (**Off**) all channels, programs or inputs. For **Custom**, Locks specified inputs of **Channel**, **Game**, **Program** and **Online Movies settings**.

Set **Custom** in **Mode** to specify **Channel**, **Game**, **Program** and **Online Movies settings**.

Channel

These channels will be blocked regardless of the program ratings.

Mode

(**Off/All/Custom**)

Locks (**All**) or Unlocks (**Off**) all channels. For **Custom**, Locks specified channels. Set **Channel 1 - Channel 7**.

Channel 1-7

Designates channel number to be blocked at any time, regardless of its broadcast content.

Game

(**On/Off**)

Restricts access to channel 3, channel 4 and all the TV's inputs.

Program

Prohibits viewing of TV content based on the rating provided by the broadcasters.

Mode**(On/Off)**

Sets program lock status. "V-chip" technology enables restricted shows to lock according to TV ratings. On: Set each rating level (MPAA, U.S.TV, C.E.L.R., C.F.L.R.)

MPAA

Selects U.S. movie ratings to lock.

U.S.TV

U.S. TV program ratings.

C.E.L.R.

Canadian English ratings.

C.F.L.R.

Canadian French ratings.

Online Movies**(Viewable/Blocked)**

Locks Online Movies. When you access Online Movies, the "Online Movies Lock" screen is displayed. Type the correct password to enter the screen.

All settings

Setup

Password setting

You need to enter the password when you access locked channels or inputs.



- ★ If it is your first time entering the password, enter the password twice in order to register it.
- ★ Make a note of your password. Do not forget it. (If you have forgotten your password, consult your local dealer.)
- ★ When you select a locked channel, a message will be displayed that allows you to view the channel after you input your password.

All settings

Setup

Parental control ratings

"V-chip" technology enables you to lock channels or shows according to standard ratings set by the entertainment industry.

■ U.S. MOVIE RATINGS (MPAA)

■ U.S. TV PROGRAMS RATINGS (U. S. TV) - Age-Based Ratings

NR	Not Rated.
G	All children and General Audience.
PG	Parental Guidance suggested.
PG-13	Parental Guidance for children under 13.
R	Restricted Viewing, parental guidance is suggested for children under 17.
NC-17/X	No one 17 or under allowed.

TV-NR	Not Rated.
TV-Y	All children.
TV-Y7	Directed to children age 7 and older.
TV-G	General Audience.
TV-PG	Parental Guidance suggested.
TV-14	Parents strongly cautioned, parental guidance is suggested for children under 14.
TV-MA	Mature Audience only.

■ CANADIAN ENGLISH RATINGS (C. E. L. R.)

■ CANADIAN FRENCH RATINGS (C. F. L. R.)

E	Exempt programming.
C	All children.
C8+	Children 8 years and older.
G	General programming.
PG	Parental Guidance.
14+	Viewers 14 and older.
18+	Adult programming.

E	Exempt programming.
G	General programming.
8 ans+	Not recommended for young children.
13 ans+	Not recommended for ages under 13.
16 ans+	Not recommended for ages under 16.
18 ans+	Programming restricted to adults.

Contents-Based Ratings

FV	Fantasy Violence.	S	Sexual situations.
D	Suggestive Dialogue.	V	Violence.
L	Strong Language.		

Caution

The V-Chip system used in this set is capable of blocking "NR" programs (non rated, not applicable and none) as per FCC Rules Section 15.120(e)(2). If the option of blocking "NR" programs is chosen "unexpected and possibly confusing results may occur, and you may not receive emergency bulletins or any of the following types of programming:"

- Emergency Bulletins (Such as EAS messages, weather warnings and others)
- Locally originated programming • News • Political • Public Service Announcements • Religious • Sports • Weather

All settings

Setup

ANTENNA/Cable setup



MENU

→ **Menu > Setup > ANTENNA/Cable setup**

ANTENNA/Cable signal

(Cable/Antenna)

Selects signal source connected directly to the ANTENNA/Cable In terminal.

Note: When using a Cable or Satellite box, it is recommended to connect the box to an AV IN terminal and skip this setting.

Channel surf mode

(All/Favorite/Digital only/Analog only)

Sets the mode to select the channel with the Channel up/down button.

Favorite: Only channels registered as FAVORITE.

Auto program

(All channels/Analog only/Digital only)

- Select scan type and press OK to start scanning automatically.
After the scanning is completed. Select Apply.
 - All previously saved channels are erased.
-

Manual program

Change the channel setting or channel display.

Edit: Edit these items.

Caption: Changes the station identifier. (maximum 7 characters available)

Favorite: Registers channels to the Favorite List from **Set favorite**.

Add: Adds (Yes) or skips (No) channels

Apply: After the editing is completed, press OK to save the settings.

Cancel: Cancel the changes.

Signal meter

Check the signal strength if interference is found or freezing occurs on a digital image.

If the signal is weak, check the antenna.

If you cannot figure out the problem, consult your local dealer.

Not available if "Cable" is selected in "ANTENNA/Cable signal".

Available only for digital antenna channels.

All settings

Setup

Language settings



MENU

→ **Menu > Setup > Language**

Menus language

(English/Español/Français)

Selects the screen menu language.

Preferred SAP language

(English/Spanish/French)

Selects the preferred language for hearing or visually impaired, if offered during digital broadcast

Note: preferred language takes precedence over preferred audio type.

(Available only in the U.S.)

All settings

Setup

Display customization



MENU

→ **Menu > Setup > Display customization**

Input labels

Selects the terminal and label of the external equipment. Devices connected to external input terminals can be labeled for easier identification during the input selection.

Label: Input name/Not used/Blu-ray/CABLE/SATELLITE/DVD/
DVD REC/DVR/GAME/HOME THTR/RECEIVER/MEDIA CTR/
MEDIA EXT/VCR/CAMERA/MONITOR/AUX/OTHER/Customize

- When the INPUT is labeled as "Not used", then it will not appear in the Input select menu.
- Select "Customize" to enter your own labels for the input (ex. "Computer")

All settings

Setup

Closed caption

 **MENU** → [Menu](#) > [Setup](#) > [Display customization](#) > [Closed Caption](#)

Mode

(Off/On/CC on mute)

On: To display Closed captions.

CC on mute: To display Closed captions when the audio is muted. (When not using, select **Off**).

Analog

(CC1-4/T1-4)

Choose the Closed caption service of Analog broadcasting.

CC1-4: Information related to pictures (Appears at the bottom of the screen)

T1-4: Textual information (Appears over the entire screen)

Digital

(Primary/Second./Service 3/4/5/6)

The Digital Closed caption menu lets you configure the way you choose to view the digital captioning.

Digital setting

Set display settings in digital programs.

Size

Select the text size

Font

Select the text font

Style

Select the text style (Raised, Depressed, etc.)

Foreground

Select the color of text

Foreground opacity

Select the opacity of text

Background

Select the color of text box

Background opacity

Select the opacity of text box

Outline

Select the outline color of text (Identify the setting options on the screen).

Reset to defaults

Resets all Closed caption settings to factory default settings.

All settings

Setup

Closed caption notice

- For viewing the CC of digital broadcasting, set the aspect to FULL (If viewing with H-FILL, JUST, ZOOM or 4:3, characters might be cut off).
- The CC can be displayed on the TV only when the receiver (such as a Cable box or satellite receiver) has the CC set to ON within the device itself. Check with your Cable or Satellite provider for instructions. The TV's CC button does not operate the Satellite or Cable box's CC function.
- If the CC is set to ON on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.
- If a digital program is being output in analog format, the CC data will also be output in analog format.
- If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

All settings

Setup

VIERA Link settings



MENU

→ **Menu > Setup > VIERA Link settings**

VIERA Link

(Off/On)

To use all VIERA Link functions, set to **On** after everything is connected.

Power on link

(Yes/No)

Yes: The TV is turned on automatically and switches to the appropriate HDMI input whenever VIERA Link compatible equipment is initially turned on and the Play mode is selected.

Power off link

(Yes/No)

When **Yes** is selected and the TV is turned off, all connected VIERA Link compatible equipment is also automatically turned off. The TV remains on even if the VIERA Link compatible equipment is turned off.

Energy saving mode

(Quick start/Save)

Quick start: When TV is turned off, all connected VIERA Link compatible equipment is moved to ECO Standby mode* automatically under these conditions.

Power off link: (**Yes**). The connected equipment has "HDAVI Control 4 or later (with Quick Start mode)"

* Minimum power consumption of Standby condition for the equipment.

Unselected device auto off

(On/Off)

On: The connected VIERA Link compatible equipment will be turned off automatically when not in use under these conditions. The connected equipment has "HDAVI Control 2 or later" (for available equipment only)

All settings

Setup

System settings

 **MENU** → **Menu** > **Setup** > **System**

Keyboard type

(U.S./Canadian French/Canadian Multilingual Standard/Spanish (Latin America)/Spanish (Spain))

Selects the country/region of the keyboard connected to this TV.

Factory defaults

Clears all TV settings and memory to factory defaults.

License

Displays the software license information.

All settings

Setup

Other settings



MENU



Menu > Setup > Other settings

Power save

(Saving/Standard)

Reduces screen brightness to lower power consumption. Eye-friendly for viewing in a dark room.

Support / FAQ

Help menu

Using Help menu

The TV's built-in self-help resources.

1. Display the menu



2. Select **Help** from menu bar

Select desired menu using \triangle / ∇ from menu bar and press 

3. Select the Help menu

Select desired menu using \triangle / ∇ and press 

(**eHELP/TV Self-test/Version/Device information**)

eHELP: This screen

TV Self-test: Verifies proper function of the TV for picture and sound.

- Follow the instructions on the screen to complete the self test.

Version: Displays TV's software (firmware) version.

Device information: Displays the device information of this TV.

Support / FAQ

FAQ

Picture - Viewing

Frequently Asked Questions

For updated information, please visit Panasonic web site.

How do I view the picture from devices such as : Cable/Satellite box, game console, Blu-ray or DVD player?

- Press the **INPUT** button on the remote to select the correct input source.
- Check that the device is turned on and functioning correctly.

Why doesn't the picture look like it is in High Definition?

- Press the **INFO** button on the remote to confirm the type of signal being received. HD signal should be 720p, 1080i or 1080p.
- Select a High Definition channel from your HD source (Cable, Satellite or fiber optic service). HD channels sometimes broadcast non-HD content.
- Ensure that your HD source (HD box, Blu-ray player, etc.) is connected to the TV with an HDMI or Component cable and set to output an HD video signal.

Support / FAQ

FAQ

Picture - Snowy / none

Why is there no picture or just a blue, black or snowy screen being displayed?

- Press **MENU** and select "Help". Then select "TV Self-test". If the test picture shows correctly, then the problem is with the external device (ex. Cable box, DVD player, etc.) or its connection to the TV.
- Check if the power cord is plugged in and the TV is turned on (front red LED light should be on; not blinking)
- Press the **INPUT** button on the remote to select the correct input source.
- Ensure all connections are correct and secure. Especially check for Component and VIDEO connection since these terminals are shared.
- When using an external video source, such as a Cable/Satellite box or DVD player, check that the device is on and functioning correctly.
- Press **MENU** on the TV's remote control. If the menu is displayed, then the TV is working; recheck above steps.

Why is the picture snowy when **ANTENNA/Cable setup is selected?**


- When using a cable service (without a box), check that all connections are secure.
- When using a cable or satellite box, change the connection (wiring) to Composite, Component or HDMI.
- If you're using an antenna, then check that connections are secure. Change the position or direction of the antenna and check the **Signal meter**.

Support / FAQ

FAQ

Picture - Distortion

The picture is distorted after selecting the "AV" input. What should I do?

- Ensure that the device is connected correctly to the TV's Video/Component green connector.
- If using VIDEO or COMPONENT:
Press **INPUT** , scroll to AV, press  to select Video or Component.



Why do black bars appear on the top and bottom and/or sides of the screen?

- Change the format (aspect ratio) of the picture by pressing the **FORMAT** button on the remote control.
- Check the aspect settings on your external video source, such as Cable/Satellite box, DVD/Blu-ray Disc player, etc.
Note: Some content, such as film-based movies, are available in extra-wide format. Top and bottom bars are unavoidable.

Why is the picture chaotic and/or torn and/or with a buzz in the speakers?

- Check if electrical products such as kitchen appliances, fluorescent lights or light dimmers are nearby. They may interfere with the TV's picture.
- Try viewing a picture from another device, such as a DVD player or a game console, to narrow down the source of the problem.

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Picture - Continue

Why is there a black box on the screen?

- Change settings of Closed caption (CC).

Why do some small spots on the screen remain bright or dark?

- The panel is made up of a few million pixels and is produced with advanced technology through an intricate process. Sometimes a few pixels may be bright or dark.
- These pixels do not indicate a defective panel and will have no impact on the performance of the TV.

Why is the picture brightness changing?

- Turn the C.A.T.S. feature off.
Press **MENU** → **Menu** > **Picture** > **C.A.T.S.**

Support / FAQ

FAQ

Sound - None

Why is there no sound coming from the TV?

- Make sure the volume is up and **MUTE** is off.
- Check that the correct **SAP** (Secondary Audio Program) is selected by pressing the **SAP** button on the remote control.
- If the TV is connected to a Panasonic Home Theater via HDMI cable, then check VIERA Link controls.
- If the TV is connected to a Home Theater via optical cable, then: Check the connection, the audio system is on, the correct input is selected.
- Check **HDMI in** analog/digital audio settings.

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FAQ

Sound - Unusual

Why is the sound unusual, distorted, low volume or in another language?

- Check that the correct **SAP** (Secondary Audio Program) is selected by pressing the **SAP** button on the remote control.
- Check that all connections of external equipment connected to the TV are secure.
- When using Cable or Satellite box, check the device's audio settings. (Example: try changing the box's Audio Range to "narrow")

Why is there a clicking, ticking or buzzing sound coming from the TV unit?

- When TV power is turned on or shut off there are electrical components that make a click sound. This is normal operation.
- Changes in the temperature and humidity of the room may cause thermal expansion and contraction that can produce sounds. This is not a sign of faulty operation or a malfunction.

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FAQ

Networking

How do I get Online Movies to work on my TV?

1. You need a broadband (high speed) Internet service with a speed of no less than 1.5 Mbps.
2. Connect the TV to the Internet through your router by an Ethernet cable or a Panasonic Wireless LAN (built-in).
3. Start **Network connection** wizard, then follow the directions on the screen to connect. If the connections still fails, then check with your Internet service provider or router/modem manufacturer if there are firewall, content filter or proxy settings that may block the TV from accessing the Internet.

Support / FAQ

FAQ

Software update

How do I check for the latest software (firmware) version for my TV?

- In the main menu, select **Network**. Select **Software update**. The current version and latest version software will be shown. If software update is grayed out, the TV is not connected to the Internet. If a newer version is available, update your TV. Follow the on screen instructions, do not power off the TV until the update is complete. Be patient; firmware update may take a while.

How do I get the software update information and download periodically?

- In the main menu, select **Network**. Highlight **New software notice**. Make sure that setting is **On**.
When the TV is turned On, update message is displayed if available.
Follow the directions on the screen to download.

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FAQ

Electronic Touch Pen

Can I use any pen I have or do I need a particular pen to use the Electronic Touch Pen feature?

- You can only use Electronic Touch Pen for Plasma TV: TY-TP10U.
- For more information about Electronic Touch Pen, please refer to below page.

(Convenience features > Using Electronic Touch Pen)

Support / FAQ

FAQ

Eco-Navigation (Eco-Navi)

Why does my picture look dim and/or sometimes changes brightness levels?

- This TV is equipped with a money saving feature called Eco-Navigation or Eco-Navi. The TV automatically dims the brightness to save energy. It also puts the picture in "Standard" mode and enables the C.A.T.S. feature so it will adjust the picture brightness automatically depending on the rooms ambient lighting conditions. This mode will also turn the TV power off if no signal is detected for 10 minutes.
- For more information about Eco navigation, please refer to below page.
(Watching TV > Useful features > Eco navigation)

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FAQ

Other

What is the easiest and best way to connect a High-Definition Cable or Satellite box to the TV?

- Use an HDMI cable. It carries both digital video and audio signal in HD. HDMI cable is the only cable needed to connect an HD device to the TV.

Why does the CC button not display Closed caption?

- When viewing TV via an HDMI connected device, such as a Cable or Satellite box, CC must be enabled on the device.
- Closed caption is available only at supported TV programming.

Why does the screen and back cover of the TV get warm?


- The main unit radiates heat and some of the parts may become hot. This is normal operation and does not affect the performance of the set.
- Ensure good ventilation.
- Do not block the ventilation holes of the TV and do not place the TV on top of other equipment.

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FAQ

Menu - Gray-out or missing items

Why the **ANTENNA/Cable option or available inputs or are not listed in the **Input select** menu?**

- When you label an input as "Not used", then it will be hidden from the **Input select** menu. To make the input visible again:
 - Press INPUT
 - Press  **Edit labels**
 - Select the input you want to unhide and re-label it.

Some menu items are grayed-out and unable to be selected. Why?


- Depending on certain modes or the selected input, some options are not available.

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FAQ

Factory defaults

How do I reset my TV to all factory defaults and settings?

- In the main menu, select **Setup**. Highlight **Factory defaults** and press . Enter your password (if locked). Confirmation message will be displayed. Follow the directions on screen to reset the TV to its original factory defaults.

Support / FAQ

Care and Cleaning

Display panel

First, unplug the Power cord plug from the wall outlet.

■ **Display panel**

The front of the display panel has been specially treated. Wipe the panel surface gently using only a cleaning cloth or a soft, lint-free cloth.

- If the surface is particularly dirty, after cleaning up the dust, soak a soft, lint-free cloth in diluted mild liquid dish soap (1 part mild liquid dish soap diluted by 100 times the amount of water) and then wring the cloth to remove excess liquid. Use this cloth to wipe the surface of the display panel, then wipe it evenly with a dry cloth of the same type until the surface is dry.
- Do not scratch or hit the surface of the panel with fingernails or other hard objects. Furthermore, avoid contact with volatile substances such as insect sprays, solvents, and thinner, otherwise, the quality of the surface may be adversely affected.

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Care and Cleaning

Cabinet

First, unplug the Power cord plug from the wall outlet.

■ **Cabinet**

If the cabinet becomes dirty, wipe it with a soft, dry cloth.

- If the cabinet is particularly dirty, soak the cloth in a weak mild liquid dish soap and then wring the cloth dry. Use this cloth to wipe the cabinet and then wipe it dry with a dry cloth.
- Do not allow any mild liquid dish soap to come into direct contact with the surface of the TV. If water droplets get inside the unit, operating problems may result.
- Avoid contact with volatile substances such as insect sprays, solvents, and thinner, otherwise, the quality of the cabinet surface may be adversely affected or the coating may peel off.
- Do not let articles made from rubber or PVC be in contact with the TV for long periods of time.

Support / FAQ

Care and Cleaning

Pedestal / Power cord

First, unplug the Power cord plug from the wall outlet.

■ **Pedestal**

- **Cleaning**

Wipe the surfaces with a soft, dry cloth. If the unit is particularly dirty, clean it using a cloth soaked with water to which a small amount of mild liquid dish soap has been added and then wipe with a dry cloth. Do not use products such as solvents, thinner, or household wax for cleaning, as they can damage the surface coating. (If using a chemically-treated cloth, follow the instructions supplied with the cloth.)

- Do not attach sticky tape or labels, as they can make the surface of the pedestal dirty. Do not allow long-term contact with rubber, vinyl products, or the like. (Doing so will cause deterioration.)

■ **Power cord**

- Wipe the plug with a dry cloth at regular intervals. (Moisture and dust can lead to fire or electrical shock.)